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ABSTRACT

The first of a three-volume final report, this portion presents an overview of the entire study, which was conducted to assess the effectiveness of secondary and postsecondary cooperative education programs in the nation's hundred largest cities and to analyze the postprogram experiences of participants and nonparticipants. (Volume 2 is a detailed analysis of the followup study and Volume 3 contains the individual case studies.) This volume is organized into six chapters: (1) Detailed description of the sample selection and an analysis of the programs nominated for inclusion in the case study sample, (2) a statistical summary of all data collected in connection with the assessment of urban cooperative programs, (3) a statistical summary of all data collected in conjunction with the followup study, an exploration of the administrative structures and program techniques used in connection with the 30 case study programs, (5) an analysis of the constraints limiting the initiation of cooperative education programs in urban areas and the possibilities for expansion, and (6) a summary of the study's findings, conclusions, and recommendations (available also as a separate document, the "Executive Summary"). (JT)

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AN ASSESSMENT OF SCHOOL SUPERVISED WORK EDUCATION PROGRAMS
PART II:
URBAN COOPERATIVE WORK EDUCATION PROGRAMS AND FOLLOW-UP STUDY

FINAL REPORT

VOLUME 1: Overview of Thirty Urban Cooperative Education Programs

By

John Walsh
Vincent J. Breglio

March 1976

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EDUCATION & WELFARE
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INTRODUCTION

Cooperative and other types of work education programs have had a long and distinguished history in the United States, but it was not until the 1968 amendments to the Vocational Education Act of 1963 (Public Law 90-576) that Congress mandated the expansion of such programs by requiring that portions of federal grants to the states for vocational education (Part B of the Act) be set aside exclusively for the initiation of the following types of work education programs: (1) cooperative work study, mandated under Part G of the Act; and (2) work study, mandated under Part H of the Act. The former are programs of vocational education for persons who receive instruction through jointly planned and supervised arrangements between schools and employers, alternating classroom instruction with on-the-job training; the latter are programs to provide jobs in local education agencies (LEAs) or other public institutions for students who need income to start or continue their vocational training. Work education programs of both types have also been funded with regular Part B funds, and the schools have cooperated with other agencies in initiating work education programs under the Neighborhood Youth Corps (NYC), Job Corps, Work Experience and Career Exploration Program (WECEP), the Manpower Development and Training Act (MDTA), and more recently the Comprehensive Employment and Training Act (CETA).

Since fiscal year 1970, when funds were first appropriated under the 1968 amendments, approximately $110.5 million in federal funds have been spent to support work education programs under Part G, with 671,187 students enrolled. Approximately $77.689 million in federal funds have been spent under Part H, with 196,017 students enrolled. In 1972, the U.S. Office of Education (USOE) launched a two-part study to assess the effectiveness of all kinds of school-supervised work education programs. The overall purposes of the study were threefold:

(1) To provide useful information on the relationships between the kinds of experiences students receive in various types of work education programs and their post-program experiences

(2) To identify and analyze existing constraints or limitations in carrying out the various work education programs, including both "internal" and "external" constraints

(3) To determine the feasibility of expanding cooperative work education programs

Part I of the study,[1] completed in September 1973, addressed itself to various kinds of school-supervised work education programs, including those funded under Parts B, G, and H of the 1968 amendments, and those funded under NYC, Job Corps, WECEP, and other programs. Fifty case studies of "specific occupation" (cooperative), "dropout prevention," and "career exploration" programs were compiled and benchmark interviews were conducted with samples of program participants and vocational education students, attending the same schools, who were not enrolled in work education programs. Although the Part I case study sample included work education programs located in urban, suburban, and rural areas of the nation, most of the specific occupation, or "cooperative," programs were located in small towns or in suburban and rural areas. Thus the number of urban cooperative education programs included in the Part I sample was too small to provide valid information about the operation of cooperative education programs in large cities.

Consequently, Part II of the study had two major purposes: (1) to discover more about the operation of cooperative work education programs located in large cities, and (2) to determine the post-program experiences of both participants and nonparticipants interviewed in conjunction with Part I of the study. Its specific tasks were as follows:

(1) The compilation of thirty case studies of cooperative work education programs operating in secondary and post-secondary institutions located in the nation's hundred largest cities

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[1] Steven M. Frankel, Cleone L. Geddes, and Emily H. Allison, An Assessment of School Supervised Work Education Programs (Systems Development Corporation, September 14, 1973) (TM-5195/002/00)

(2) The administration of interviews to participants in the thirty programs, and a cohort group of similar vocational education students attending the same schools but not enrolled in cooperative programs

(3) The administration of follow-up interviews to students (both participants and nonparticipants) who were interviewed during the first part of the study

(4) The comparison of the results of (3) above with post-school employment experiences of a group of vocational education students who responded to a national longitudinal follow-up study sponsored by the National Center for Educational Statistics.

This report summarizes the findings and conclusions of Part II of the study and, wherever possible, integrates the findings and conclusions of Part II with those of Part I.

POTENTIAL IMPORTANCE OF COOPERATIVE EDUCATION TO URBAN AREAS

Cooperative education is potentially one of the most important means of expanding occupational opportunity to members of minority groups, many of whom live in large urban areas. Dr. Christopher Jencks of the Harvard Graduate School of Education, in commenting on the findings of the Coleman Report, said: "What we have learned from the Coleman Report . . . is that contrary to the conventional wisdom, you cannot have equality of opportunity without a good deal of equality of condition -- now and not in the hereafter."[2]

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[2] Godfrey Hodgson, "Do Schools Make a Difference," The Atlantic Monthly (March 1973), p. 44.

Miriam Johnson, in her book Counter Point, points out that one of the reasons why minority youths have difficulty in finding jobs other than those of a menial nature is because they, their parents, other relatives, and neighbors know very little about the larger labor market. "The market they know well," Ms. Johnson says, "is the 'secondary market' -- the extremely limited range of low-paying occupations."[3] Nonminority youths, whether they are high school graduates or dropouts, generally have at their command a wider array of labor market information, including knowledge about where to go and whom to see about potential jobs, primarily because the advice they receive from friends, neighbors, and relatives is based on a wider range of labor market experience.

Imaginative cooperative education programs for minority students at both the secondary and post-secondary levels could help make up for this debilitating condition. Cooperative programs could provide minority youths with an exposure to a wide range of occupational areas and, as a result, could broaden their career horizons, increase their appreciation of school, and of course increase their value to employers.

However, although cooperative education has a special significance for minority students, its value is by no means restricted to minorities. The authors of Career Education -- What It Is and How to Do It[4] point out:

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[3] Miriam Johnson, Counter Point -- The Changing Employment Service (Salt Lake City: Olympus Publishing Company, 1973).

[4] Kenneth B. Hoyt, et al., Career Education -- What It Is and How to Do It (Salt Lake City: Olympus Publishing Company, 1974).

> Children who absorbed the accumulated "how to do it" lore of agriculture while working beside their fathers were one step removed from the industrial world of work but at least had some idea of what "Dad did at the plant." Increasingly the world of work is some incomprehensible place to which both parents go daily with little notion available to children that anything occurs there. While alternative career choices may have multiplied, noninstitutionalized exposure to those choices may have narrowed. (Emphasis added.)

What appears to be needed, therefore, is increased exposure to alternative career choices, not only at the secondary and post-secondary levels, but at the elementary level as well. With respect to noncollege-bound secondary and post-secondary students, whose entrance into the labor market is imminent, there is an even greater reason to integrate classroom instruction with on-the-job training and experience. Thus, when Part II of the assessment was conducted, the attempt was made to measure the extent to which minority students benefit from participation in cooperative programs and the extent to which cooperative education helps all participants (minority and nonminority) decide on careers.

Possible Constraints or Limitations in Urban Areas

The Act stipulates the following conditions under which a state may receive federal funds for cooperative education:

(1) Cooperative programs must provide training opportunities that otherwise would not be available

(2) Such programs are to be developed in cooperation with employment agencies, labor unions, employers and other community groups

(3) Reimbursement to employers is available only where on-the-job training is related to existing career opportunities and does not replace other workers who perform such work

(4) Priority is given to areas that have high rates of school dropouts and youth unemployment

Many other issues are left to administrative discretion; among these are:

(1) The minimum age for youth to be enrolled in cooperative programs

(2) Criteria for the selection of students to be enrolled in cooperative programs

(3) Criteria for determining whether proposed on-the-job training is related to existing career opportunities

(4) Criteria for determining whether employers should be reimbursed for added costs, and, if so, how much

(5) The proportion of time spent by students in school and on the job

(6) The formula for granting school credit for on-the-job training

(7) Whether funds will be used for the employment of coordinators, instructors, the reimbursement of employers, or for one or more of all of these

(8) Whether students should be paid for the work they perform, and, if so, whether their wage rates should be the same as those paid to the employers' regular employees who perform similar work

Many of the most often mentioned constraints limiting cooperative education programs in urban settings are either directly or indirectly related to the issues listed above. For example, the four hypotheses listed below are often identified as program constraints:

(1) It is not possible to mount large-scale work education programs in areas of high unemployment or in "depressed areas."

(2) The reluctance of employers in urban areas to cooperate in work education programs effectively blocks the initiation of such programs.

(3) In occupational areas controlled by labor unions, it is not possible to initiate school-supervised work education programs; or during periods of high unemployment, because of labor union opposition, it is not possible to initiate work education programs.

(4) The attitudes of a large number of inner-city students toward work make it impossible to place them in work education settings.

It could be contended that all of these hypotheses, which, if they were true, would be considered "external constraints," are actually untested assumptions. The best way of illustrating this is to state four hypotheses in direct opposition to those stated above:

(1) The attitudes of inner-city students toward work and school would improve if they were exposed to work education programs in occupational areas that would expand

their career horizons, and if the enrolled students were provided with adequate counseling and supportive services.

(2) Labor unions would participate in work education programs if union expertise were afforded adequate recognition in the design of programs, and if the problems labor unions sometimes face in explaining such programs to their constituents were taken into consideration.

(3) The reasons why employers do not cooperate in work education programs is because they are not approached by school administrators or program coordinators, and because they know nothing about them, including the various types and purposes of work education programs.

(4) Even in areas of high unemployment or in depressed areas, it is possible to mount work education programs if the educational rather than the economic aspects are emphasized in the program designs.

If the latter four hypotheses were true, the constraints would be considered "internal" rather than "external." The problem therefore was not only to identify constraints, but through careful questioning of school personnel, students, employers and union representatives, to determine whether such constraints were outside the control of school administrators. Therefore, all programs included in the urban cooperative case study sample were reviewed in terms of the economic settings in which they were operating, the administrative techniques used, and the various contents of programs (both in-school and on-the-job).

Methodology

Detailed descriptions of the methodologies used to carry out the objectives of the assessment are either described in the succeeding chapters (or volumes), or can be discerned from the actual presentation of the material; in this section, the study's methodology is described solely in general terms.

The findings and conclusions contained in chapter 6 are based on information derived from the compilation of thirty case studies of urban cooperative education programs, and follow-up interviews with 1,504 students (803 participating and 701 nonparticipating) who were first interviewed in 1973 (24 months previous to the follow-up interviews) during Part I of the assessment.

THE CASE STUDIES

The purpose of the case studies was to document the kinds of cooperative education experiences students receive in urban settings, the administrative techniques used, constraints which limit the initiation of cooperative programs in urban areas, and the feasibility of expanding such programs. The methodology used in carrying out the case studies is described below under three sections: (1) selecting the sample, (2) conducting the case studies, and (3) data analysis.

Selecting the Sample

Because of the emphasis on constraints or expansion of cooperative programs in urban areas, the attempt was made to identify a universe of programs, from which the sample of thirty programs would be selected, which in the opinion of educators and others knowledgeable in the field of vocational education, were "worthy of replication elsewhere or have been successful in overcoming constraints which limit the initiation of cooperative programs in urban areas." To accomplish this, letters requesting program nominations, together with "project nomination forms," were sent to state and local educators, members of vocational education advisory committees, and other acknowledged experts in the field of vocational education. A list of the nation's hundred largest cities was enclosed with the letter, and respondents were asked to limit their nominations to programs operating for two years or more within the geographical limits of these cities. From the nominations received, a purposive sample of thirty programs was selected.[5]

Conducting the Case Studies

Following the selection of the project sample, the coordinators of all programs included in the sample were invited to regional conferences (one each in Washington, D.C.,; Chicago, Illinois; and Los Angeles, California). The purposes of the regional conferences were to explain in detail the purposes and methodologies of the research project, make advanced arrangements for conducting the student interviews, and schedule site visits.

All tasks associated with the site visits, with the exception of the student interviews, were conducted by three Olympus Research Corporation (ORC) two-person teams, each headed by a senior professional "team leader"; the student interviews were conducted by Decima Research (Decima) personnel. During the course of the site visits, the following interview schedules and data collection forms were completed:

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[5] For a detailed description of the sample selection and an analysis of the programs nominated, see chapter 1.

(1) Project interview schedule: Although the major respondent for the project interview schedule was the program coordinator, where appropriate certain sections of the schedule were administered to LEA personnel, counselors, instructors, and other school personnel. It was designed to obtain information on the purpose, history, administrative structure, rules and regulations, techniques used to accomplish key tasks, school-perceived constraints, and program content (both in-school and on-the-job) of each of the sample programs.

(2) Participating employers: At each site, the attempt was made to interview three employers who were participating in the sample programs, or a total of ninety interviews; the actual number of participating employer interviews obtained fell four short of the goal, or a total of 86. Participating employers were asked how they became involved in cooperative programs, the nature of their involvement (including questions intended to validate responses given by school personnel), the conditions that would have to exist if programs were to be expanded, and employer-perceived constraints to the expansion of cooperative programs.

(3) Nonparticipating employers: Nonparticipating employers were matched with participating employers by industry (or type of business) and size. The goal was to obtain a total of sixty interviews with nonparticipating employers, or two per site; the actual number obtained was 58. Nonparticipating employers were asked whether they had ever been approached by school administrators, whether they had in the past participated in cooperative programs, and whether they were willing to participate in such programs either currently (at the time the site visits were conducted) or in the future. Employers who were approached by the schools or who had once participated in cooperative programs were asked why they refused to participate, or why they withdrew from participation.

(4) Union representative interview schedule: Representatives of central labor councils or building trades councils were interviewed to probe union attitudes toward the concept of cooperative education (not necessarily related to specific programs). Although the attempt was made to interview one union representative per site, because of outright refusals or time-consuming union clearance procedures, only seventeen union interviews were obtained.

(5) Project data collection form: This form recorded completion, placement, and follow-up information, where available, for each program during the 1974-75 school year, or the year preceding the site visit.

(6) Economic data collection form: Economic data on each of the cities in which the sample programs were located were recorded for the five-year period 1971-75. The information recorded included employment by industry, unemployment rates, and economic trends (e.g., the movement of firms into or out of the cities).

(7) Participating student interview schedule: This schedule corresponds closely to the participating student interview schedule used during Part I of the study, thus making possible comparisons between the attitudes and experiences of Part II participants (all urban) and Part I participants (mainly rural and suburban). Participants were asked how they were informed about the programs, the wage rates (if any) they earn on the job, and their ratings of all aspects of the programs, including school satisfaction (before and after enrollment in programs), classroom instruction, counseling, training and supervision on the job, job satisfaction, job responsibility, and the overall quality of work stations.

(8) Nonparticipating student interview schedule: The nonparticipating student interview schedule also corresponds closely to its Part I counterpart. The attempt was made to include as many participants as possible who were working so that valid comparisons could be made between the attitudes and experiences of cooperative and regular vocational education students toward

school and work. Nonparticipants were asked whether they had ever heard of cooperative programs, the wage rates they were receiving on the job, and their ratings of the same school and on-the-job components that were asked of participating students.

The compilation of the thirty case studies contained in Volume 3 and the analysis of urban cooperative education programs contained in this volume were based on data obtained through the administration of the research instruments outlined above.

Data Analysis

Six types of analyses, each directed toward fulfilling the overall objectives of the research project, were conducted:

(1) Case studies: The case studies are divided into two sections: (a) project description and (b) issues. The former is a factual description of each of the thirty programs included in the project sample; the latter is a discussion of key issues regarding cooperative education (e.g., eligibility requirements, evaluation for school credit, job development, promotion and public relations, use of advisory committees, and so forth) as they relate to individual programs.[6]

(2) Statistical summary: Whereas the case studies deal with individual programs, the statistical summary deals with aggregate data and is broken down as follows:

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[6] For a complete description of the case studies analysis, see the introduction to Volume 3.

(a) Comparisons between the attitudes and experiences of participants and nonparticipants in urban cooperative education programs

(b) Comparisons between the attitudes and experiences of Part I and Part II participants and nonparticipants

(c) An exploration of variables which contribute to program success

(d) Comparisons between the attitudes and experiences of participants by:

1. Racial and ethnic background
2. Sex (male and female).

(3) Administrative and program techniques: An exploration of the administrative structures of urban cooperative programs, and the techniques used to accomplish such key tasks as job development, concluding agreements with employers, matching students with jobs, providing student credit for work experience, and so forth.

(4) Employer views: An analysis of employer views regarding cooperative education programs.

(5) Union views: An analysis of union views regarding cooperative education programs.

(6) Constraints and possible expansion: An analysis of the views of school personnel, employers, union representatives, and others regarding constraints which limit the expansion of cooperative programs in urban areas and the conditions which must exist to make program expansion feasible.

THE FOLLOW-UP STUDY

A more detailed description of the follow-up study is contained in the introduction to Volume 2. The goal was to locate 85 percent of the 1,717 participating and nonparticipating students interviewed during Part I of the study. Decima, which performed the follow-up survey, was successful in locating and administering follow-up interviews to 1,504 students, or 88 percent of the original sample. The major purpose of the follow-up survey was to compare outcomes (in terms of employment, wages, promotions, quality of jobs, additional educational experience, and so on) between students who participated in work education programs and those who did not.

ORGANIZATION OF THE REPORT

The report is organized into three volumes. The individual case studies are contained in Volume 3, and a detailed analysis of the follow-up study is contained in Volume 2. Volume 1 presents an overview of the entire study. It is organized into six chapters:

(1) A detailed description of the sample selection and an analysis of the programs nominated for inclusion in the case study sample

(2) A statistical summary of all data collected in conjunction with the assessment of urban cooperative programs

(3) A statistical summary of all data collected in conjunction with the follow-up study

(4) An exploration of the administrative structures and program techniques used in connection with the thirty case study programs

(5) An analysis of the constraints limiting the initiation of cooperative education programs in urban areas and the possibilities for expansion

(6) A summary of the study's findings, conclusions, and recommendations (available also as a separate document, the "Executive Summary")

The only conclusions contained in this three-volume report are those that can be buttressed with data. For example, it was hypothesized at the start of the study that certain administrative and program variables would correlate so strongly with "program success," as measured by completion and placement rates and student attitudes toward school and work, that a "model" could be drawn of a "successful" cooperative education program. An exhaustive search to isolate such variables proved to be only partially successful. This does not mean that administrative and program techniques usually associated with superior or successful programs do not contribute to program success; it merely means that with respect to the thirty programs included in the sample no identifiable pattern (or model) evolved which related program and administrative variables to program success. In other words, program characteristics were highly individual and similarities difficult to identify.

The study's conclusions, which can be backed up with copious data, are numerous and should provide valuable insights into the operation of work education programs under the Parts G and H set asides of the 1968 amendments to the Vocational Education Act of 1963.

GLOSSARY OF TERMS

Although the terms listed below are defined in various sections of the text, in order that the reader may have a common reference point for definitions of key terms used throughout the report, a glossary of major terms is provided in this section.

(1) Work education: The generic term used to describe all school-supervised programs which alternate classroom instruction with on-the-job training.

(2) Cooperative education: Programs of vocational education, under the direction of a single "coordinator," for persons who receive instruction through jointly planned and supervised agreements between schools and employers, alternating classroom instruction with on-the-job training (mandated under Part G of the Vocational Education Amendments of 1968). For the purposes of this study, cooperative programs have been categorized as follows:

   (a) Single occupation programs -- Cooperative programs in which students receive classroom training in specific occupations and are placed in jobs closely related to their classroom training.

   (b) General occupational cluster -- Cooperative programs in which students receive classroom training in general occupational areas (occupational clusters) and are placed in a variety of different jobs within occupational clusters.

(c) Diversified programs -- Cooperative programs in which students receive "world of work" instruction in the classroom and are placed in a variety of jobs, not necessarily related to their school majors or within any specific occupational cluster.

(3) Work study programs: Programs to provide jobs in LEAs or other public institutions for students who need income to start or continue their vocational training (mandated under Part H of the 1968 amendments).

(4) Work experience programs: Work education programs, supervised by schools, but funded under such programs as the Neighborhood Youth Corps (NYC), Work Experience and Career Exploration Program (WECEP), and other programs not under the direct jurisdiction of the schools or state departments of vocational education.

(5) Part I work education programs: A sample of fifty work education programs, including cooperative education, Job Corps, work study and work experience, which were assessed in conjunction with Part I of this study. The sample programs were categorized as follows:

(a) Specific occupation programs -- Cooperative and Job Corps programs in which students are trained in specific occupations and their on-the-job experience is closely related to their classwork.

(b) Dropout prevention programs -- Work study and work experience programs directed toward students who have been identified as potential dropouts.

(c) Career exploration programs -- Work education programs which are designed to expose students to a variety of occupational areas, both in school and on the job.

(6) World of work instruction: Generalized instruction relating to the job search (including the drafting of résumés, correct interview behavior, and so on); the responsibilities of employees toward employers and vice versa; and grooming, attitudes, safety on the job, and other such topics. Students in world-of-work classes are often required to draft educational and occupational goals and objectives and provide evidence (in writing) that they are progressing toward meeting their stated goals and objectives.

(7) Coordinator: A person employed by the school who supervises students on the job and often teaches these same students in a classroom where they study the theory of their occupations and also receive some general world-of-work instruction.

(8) Participating students: Vocational education students who were enrolled in the programs included in the Part I and Part II samples, and who were interviewed regarding their school and work experiences.

(9) Nonparticipating students: Similar vocational education students who were attending the same schools as the participants, but who were not enrolled in work education

programs, and were interviewed regarding their school experiences.

(10) Part II follow-up participating and nonparticipating students: Participating and nonparticipating students who were first interviewed in conjunction with Part I of the study, and reinterviewed two years after they had graduated from school in conjunction with Part II of the study.

(11) Completion rate: The percentage of students enrolled in work education programs who remain in the programs until their completion.

(12) Placement rate: The percentage of students who complete work education programs and are placed in jobs following their graduation from school.

(13) Training-related placement rate: The percentage of students who are placed in jobs which are closely related to the training they received in school.

1

THE SAMPLE

The findings, conclusions, and recommendations contained in this report pertaining to cooperative education programs in urban areas were based on assessments of thirty programs, nominated by educators and other experts in the field of vocational education, which were in operation for two years or more in 26 of the nation's hundred largest cities. This chapter describes how the universe of programs, from which the case study sample was selected, was obtained (including a statistical analysis of the projects nominated), the actual sampling procedure, and a description of the final sample obtained (including a list of the programs which were included in the sample).

THE NOMINATING PROCEDURE

The major technique for soliciting program nominations was to send letters and project nomination forms to the individuals listed below, although personal visits were also made to directors of vocational education and to work education project officers in nine states (where project nomination forms were filled out by ORC researchers on the site). The "nomination letter" defined cooperative education as "programs of vocational education for persons who receive instruction through jointly planned arrangements between schools and employers, alternating classroom instruction with on-the-job experience (for which the student receives academic credit) under the supervision of a coordinator employed by the school." The respondents were urged to nominate programs which "are worthy of replication elsewhere" or "which have overcome constraints limiting the initiation of cooperative programs in urban areas."

Nearly five hundred nomination forms were received, of which 435 met the requirements of the study. The categories of individuals who were asked to recommend programs for inclusion into the case study sample and the number in each category to whom nomination letters were sent are as follows:

Respondent Category	Number Solicited
Presidents of community and junior colleges (hundred largest cities)	167
Superintendents of schools (hundred largest cities)	100
Coordinators[1]	87
State directors of vocational education (in states where the hundred largest cities are located)	37
Members of state advisory councils	37
Members of national advisory councils	22
Miscellaneous	15
TOTAL	465

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[1] These are coordinators of programs listed in the "Directory of Representative Work Education Programs -- 1972-73," compiled during Part I of this study.

Statistical Analysis of Programs Nominated

The 435 programs nominated were located in 32 states and 75 of the nation's largest cities. Of the programs, 341 were located in secondary schools and 59 in post-secondary schools (including four-year colleges). The remaining 35 programs were either city-wide in nature or were serving students at varied educational levels. The latter have been excluded from the statistical summary that follows.

Tables 1-1 and 1-2 provide a statistical overview of the four hundred secondary and post-secondary programs nominated. In Table 1-1, it can be seen that there were substantially fewer women and minorities enrolled in the post-secondary programs nominated than in their secondary counterparts. This may reflect the traditional pattern of increasing *de facto* segregation that occurs at each higher level of education.

Traditionally, cooperative education has been concentrated in distributive and office occupations. Table 1-1 implies that this emphasis has not changed. Nearly half of the offerings of both the secondary and post-secondary programs nominated were in distributive and office occupations. There were, however, some differences in occupational offerings by educational level. The table indicates that higher percentages of secondary level offerings were in the trade and industrial and office occupation categories; more post-secondary programs, on the other hand, were in technical occupations.

As might be expected, data in Table 1-2 show that there was a marked increase in minority enrollment from small to large cities. In secondary school programs, minority enrollment grew

TABLE 1-1

Characteristics of Nominated Programs
by Educational Level

Variable	Post-Secondary Number	Post-Secondary Percent	Secondary Number	Secondary Percent
Total number of programs	59		341	
Percent female		46%		59%
Percent minority		29		48
Percent who receive pay		78		95
Average enrollment (students)	44		37	
Occupational area:				
Total number of offerings	128		530	
Agriculture		5		4
Distributive education		23		22
Health		17		13
Home economics		12		13
Office occupations		20		23
Trade and industrial		10		17
Technical		13		6

from one-third in small cities to two-thirds in large cities. The table also shows that there was a gradual increase in health occupations offerings from small to large cities. Finally, Table 1-2 indicates that the occupational patterns for secondary (trade and industrial) and post-secondary (technical) programs noted above were more evident in medium to large cities than in small cities.

SAMPLING PROCEDURES

The study called for the selection of ten programs each from large, medium, and small cities, and an oversampling of post-secondary

TABLE 1-2

Characteristics of Nominated Programs by Size of City[a]

Variable (Total programs)	Small		Medium		Large	
	Post-secondary (21)	Secondary (182)	Post-secondary (28)	Secondary (114)	Post-secondary (10)	Secondary (45)
Percent female	55%	60%	38%	59%	44%	61%
Percent minority	16	33	25	46	45	66
Percent who receive pay	86	94	78	99	70	100
Occupational area:						
Agriculture	5	2	6	7		4
Health	15	12	18	14	19	16
Distributive education	20	25	25	21	24	18
Home economics	7	12	15	14	9	15
Office	20	22	18	21	24	30
Trade and industrial	15	18	8	17	5	20
Technical	15	7	10	6	19	1

[a] The cities were classified by size as follows: large -- populations of one million or more; medium -- populations between 300,000 and 999,999; small -- cities with population between 138,000 and 299,999.

programs. The latter was necessary because of the small number of post-secondary programs nominated (15 percent of the total). Thus the goal was to select eighteen secondary and twelve post-secondary programs. However, for reasons which are explained below, only eleven post-secondary programs were included in the final sample.

The following programs were eliminated from the universe:

(1) All programs which could not be classified as secondary or post-secondary, or which could not be identified with a single school

(2) All programs with enrollments of less than fifteen

(3) Programs which had been included in the Part I case study sample

(4) Miscellaneous other programs about which information listed on the project nomination forms was vague or missing[2]

These cuts reduced the universe from 435 to 327.

The first step in the sampling procedure was to stratify the 327 nominations by size of city and educational level. Six secondary and four post-secondary programs would then be selected from each cell. However, in order to make certain that the sample contained a sufficient variety of programs, in terms of occupational offerings and student characteristics (minority-nonminority, disadvantaged-advantaged, male-female, and so forth), on the first selection, twelve secondary and eight post-secondary programs were chosen randomly from each cell (Figure 1.1).

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[2] Despite all precautions, one program included in the final sample had an enrollment of only six at the time of the site visit; another, listed as within the city limits, was actually in a suburb bordering on the city.

	Size of City							
	Large: One Million or More		Medium: 300,000 to 999,999		Small: Less than 300,000		Total	
Secondary	Sample	6	Sample	6	Sample	6	Sample	18
	Oversample	12	Oversample	12	Oversample	12	Oversample	36
	Nominations	42	Nominations	118	Nominations	112	Nominations	272
Post-secondary	Sample	4	Sample	4	Sample	4	Sample	12
	Oversample	8	Oversample	8	Oversample	8	Oversample	24
	Nominations	11	Nominations	23	Nominations	18	Nominations	52
Total	Sample	10	Sample	10	Sample	10	Sample	30
	Oversample	20	Oversample	20	Oversample	20	Oversample	60
	Nominations	53	Nominations	141	Nominations	130	Nominations	342

FIGURE 1.1. Sample Stratification Scheme

The oversample of sixty programs was then post-stratified geographically by the four census regions. Where imbalances occurred, programs not selected were substituted for those selected. From this point until the final sample was selected, the sampling procedure was purposive.

It proved to be impossible to fulfill the sampling design in one cell: the post-secondary programs in large cities. This cell had only eleven nominations, but the plan called for an oversample of eight and a final sample of four. However, because several of the schools declined to participate, including one school whose president had nominated the program, it was not possible to select four suitable programs. As a result, the plan was modified to substitute one secondary for one post-secondary program in that cell. Thus the final sample included nineteen sceondary and eleven post-secondary programs.

THE SAMPLE SELECTED

Table 1-3 shows the distribution of the programs selected for the case study sample by size of city, educational level, geographical location, and percentage of minorities and disadvantaged. Table 1-4 shows the distribution of the case study sample by occupational area. However, it should be noted that this table is not based solely on information contained on the project information forms. When the field work was performed, it was found that many programs could not be classified in any occupational level. These programs, which were usually classified as "trade and industrial" or "technical" on the project nomination forms, were in reality diversified programs in which students were placed in a variety

TABLE 1-3

Distribution of Programs Included in Case Study Sample by Size of City, Educational Level, Geographical Location, and Minority/Disadvantaged Enrollment

Variable	Size of City			Total
	Large	Medium	Small	
Level of education:				
Secondary	7	6	6	19
Post-secondary	3	4	4	11
TOTAL	10	10	10	30
Location:				
Northeast	4	2	1	7
South	(a)	3	3	6
North central	3	3	2	8
West	3	2	4	9
TOTAL	10	10	10	30
Percent minority or disadvantaged:				
More than 50%	5	3	2	10
Less than 50%	5	7	8	20
TOTAL	10	10	10	30

[a] There are no cities of a million or more population in the South.

TABLE 1-4

Distribution of Programs Included in the Case Study Sample by Occupational Area

Occupational Areas	Level of Education		Total
	Secondary	Post-secondary	
Agriculture	0	0	0
Distributive education	2	2	4
Health	1	0	1
Home economics	1	0	1
Office	4	1	5
Technical	2	1	3
Trade and industrial	5	2	7
Diversified	4	5	9
TOTAL	19	11	30

of jobs and received "world of work" instruction in the classroom. In fact, after the on-site visits had been completed, the programs in the case study sample were reclassified into the following categories:

(1) Single occupation programs: Programs in which students received classroom training in a specific occupational area and were placed in jobs closely related to their classroom training

(2) General occupational cluster: Programs in which students received classroom instruction in a general occupational area and were placed in a variety of different kinds of jobs within an occupational cluster

(3) Diversified programs: Programs in which students received world of work training in the classroom and were placed in a variety of jobs, not necessarily related to their majors in school or within any specific occupational cluster

This subject will be discussed in more detail in chapters 2 and 4, but because the number of diversified programs was much larger than expected (nine out of the thirty programs), in order to describe accurately the case study sample, diversified programs have been categorized separately in Table 1-4.

The programs selected for the case study sample, together with their occupational areas and male-female enrollments, are shown in Table 1-5. With respect to male-female enrollment, in selecting the case study sample, we made an effort to choose programs which enrolled both men and women. This was necessary in order to obtain

TABLE 1-5

Final Selection of Programs for Case Study Sample by Occupational Area and Percentage of Male and Female Enrollment

Program Variables	Occupational Area	Percentage of Enrollment	
		Male	Female
Secondary schools:			
Webster High School, Detroit	Trade and industrial	100%	
Prosser Vocational High School, Chicago	Trade and industrial	100	
Regional Vocational Center, Fort Wayne	Trade and industrial	100	
New York School of Printing, New York	Trade and industrial	100	
Murrel Dobbins High School, Philadelphia	Diversified	81	19%
J. H. Patterson High School, Dayton	Technical	80	20
Henrico High School, Richmond	Trade and industrial	73	27
E. E. Worthing High School, Houston	Diversified	71	29
West Division High School, Milwaukee	Home economics	57	43
Pueblo High School, Tucson	Diversified	50	50
L. E. Rabouin Vocational High School, New Orleans	Diversified	44	46
Northside High School, Memphis	Diversified	44	56
West Side High School, Newark	Distributive education	33	67
West High School, Salt Lake City	Health	31	69
Capitol Hill High School, Oklahoma City	Distributive education	30	70
Central Technical High School, Syracuse	Business and office	19	81

TABLE 1-5 (continued)

Program Variables	Occupational Area	Percentage of Enrollment	
		Male	Female
Theodore Roosevelt High School, New York	Business and office	19	81
Stephen F. Austin, Sr., High School, Houston	Business and office	11	89
Patrick Henry High School, Minneapolis	Business and office	7	93
Post-secondary schools:			
Spokane Community College	Diversified	100	
Central Piedmont Community College, Charlotte	Trade and industrial	100	
Laney College, Oakland	Diversified	40	60
East Los Angeles Community College	Diversified	90	10
Broward Community College, Fort Lauderdale	Technical	87	13
Cincinnati Technical College	Trade and industrial	86	14
Jefferson State Junior College, Birmingham	Diversified	69	31
Fort Steilacoom Community College, Tacoma	Distributive education	60	40
Staten Island Community College, New York	Business and office	59	41
Malcolm X Community College, Chicago	Diversified	59	41
Garland Junior College, Boston	Distributive education		100
All programs:			
All secondary		52	48
All post-secondary		72	28

a sample of participating students (for the student interview phase of the project) that included a balanced proportion of male and female students. In actual practice, however, the selections had to be on the basis of occupational area, which largely determined whether programs would be male or female dominated. Table 1-5 shows that no women were enrolled in five of the seven trade and industrial programs, and only a few were enrolled in the two technical programs. On the other hand, women predominated in business and office, health, and distributive occupations programs. Males were enrolled in all programs included in the sample, with the single exception of a fashion-merchandising program at Garland Junior College in Boston.

SUMMARY

When a sample of thirty cooperative education programs in urban areas was selected, several trends emerged which are worth noting here because of their significance to some of the major overall findings of the study. The first pertains to occupational offerings. Although an analysis of the project nomination forms indicated that nearly half of the programs nominated were in traditional cooperative occupational areas (distributive and office occupations), the field work revealed that nearly one-third of the sample programs, which had been assigned occupational areas by their nominators, were actually "diversified" programs, or programs which do not concentrate on any specific occupation or occupational cluster. As will be noted later, there are reasons for the popularity of diversified programs in urban areas, but the large percentage of such programs in the sample was unexpected and could not have been predicted.

The second trend emerged when ORC was attempting to select a sample which would produce a balanced enrollment of men and women, and it was found that few women were enrolled in post-secondary programs and, in both secondary and post-secondary programs, most women were concentrated in business and office, health, and distributive occupations. This made it impossible to obtain a sample of post-secondary programs with a balanced male and female enrollment, and in order to achieve such a balance for secondary programs, certain occupational areas had to be favored over others. Although this was not altogether surprising, in the light of findings emanating from the follow-up study, it is significant. These findings indicate that the post-school wages of women (who were enrolled in the same occupational areas as men) were in some cases less than half as high as their male counterparts.

Finally, it was not difficult to select programs with high minority and disadvantaged enrollments. All but a few of the programs nominated enrolled healthy percentages of minorities, and in large cities, two-thirds of the enrollment in the nominated programs was in the minority category. Since the follow-up study indicated that the post-school economic experience of minorities (especially those at the post-secondary level) was better than that of their nonparticipating counterparts and equal to that of nonminority participants the fact that minorities were being enrolled in cooperative education programs is encouraging. The fact that it was not difficult to select programs with minority and disadvantaged enrollments may also indicate that the 1968 work education set-aside amendments have spurred the initiation of cooperative education programs for minority and disadvantaged students.

2

STATISTICAL SUMMARY -- URBAN CASE STUDIES

The statistical summary which follows is based upon data collected from (1) interviews with school personnel, primarily coordinators, but also with local education agency (LEA) officials, instructors, and counselors, and (2) interviews with students enrolled in the programs included in the urban-cooperative case study sample and their counterpart group of nonparticipating vocational education students. (Data relating to the employer and union interviews are discussed separately in chapters 4 and 5.) In this chapter, there are three sections:

(1) An exploration of internal and external variables which may contribute to program success (variable analysis)

(2) Comparisons between participating and nonparticipating students (student analysis)

(3) A review of completion, dropout, and placement rates of urban-cooperative case-study secondary school programs (outcomes study)

VARIABLE ANALYSIS

ORC's objective in performing the variable analysis was to try to isolate environmental, administrative, and institutional variables which correlated significantly with program success. The sequential steps followed were:

(1) A selection was made of dependent variables (success criteria) and independent variables (potential predictors of program success).

(2) A bivariate correlation analysis was conducted to determine whether significant relationships existed between:

  (a) The dependent variables identified

  (b) The independent variables.

(3) A bivariate correlation analysis was conducted to determine whether significant correlations existed between the independent variables and the dependent variables, broken down as follows:

  (a) The sample as a whole

  (b) Secondary programs only

  (c) Post-secondary programs.

(4) Where significant relationships were found between independent and dependent variables (in 2 above), variables were combined (the only significant correlations found were between independent variables).

(5) A multivariate regression analysis was then conducted to determine relationships between the compressed independent variables (in step 4) and the dependent variables.

Step 5 was an attempt to construct a "model" of external and internal variables which were predictors of program success. Although a few significant relationships between predictor and success variables were found by means of the model drawing multivariate regression analysis, the most significant findings emerged from the bivariate analysis of a wider range of predictor and success variables, stratified by secondary and post-secondary programs. In the subsections which follow, the bivariate analysis is presented first, the attempt at model construction is second.

Bivariate Analysis

A bivariate correlation analysis, by educational level, was performed to determine whether significant relationships existed between 33 independent and fourteen dependent variables. Figure 2.1 lists the variables tested and, where appropriate, the standards established. However, in the tables showing the results of the analysis, only those variables which correlated significantly are listed.

It should be emphasized that only eleven post-secondary programs were included in the case study sample. Findings relating to post-secondary programs, therefore, are subject to considerable sampling error and should be reviewed with caution. Although all significant relationships are noted in the tables relating to the bivariate analysis, only those which constitute "trends," or which have overriding significance to the study as a whole, are highlighted in the narrative sections.

INDEPENDENT VARIABLES

Type of Program

- Single occupation
- General occupation
- Diversified occupation

Size of City

- Large
- Medium
- Small

Unemployment Rates

- Above national average
- National average
- Below national average

Student Characteristics

- Male
- Female
- Percent minority
- Percent nonminority
- A, B grades
- C, D, F grades
- Enthusiasm (student mean)

Administrative

- Student/counselor ratio
- Written policy concerning work stations
- Have administrative committee
- Involvement of committee above average[b]
- Involvement of committee below average[b]
- Placement service available
- Maintain service available
- Have original follow-up
- Follow-up above average[a]
- Follow-up below average[a]
- Received counseling (percent yes)
- Rating of counseling (mean)
- Integration of class and on-the-job training
- Overall quality of work

DEPENDENT VARIABLES

Completion and Placement[c]

- Completion rate
- Dropout rate
- Placement rate
- Placement/training related

School or Job Satisfaction

- Job responsibility
- Job satisfaction
- School satisfaction

Other

- Helped decide occupation
- Desire job in school occupation
- Fits with career interest
- Overall student program rating
- Received program
- Attitude of instructor
- Attitude about job

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[a] Rated by coordinators.

[b] Rated by ORC on basis of frequency of committee meetings and the specific tasks assigned to committees.

[c] Applies only to secondary schools.

FIGURE 2.1. Independent and Dependent Variables Tested for Correlations at the Secondary and Post-secondary Levels

Analysis by Type of Program

Table 2-1 shows the distribution of the case study sample by type of program. As was noted previously, the large number of diversified programs was unexpected. It appeared that for a variety of reasons the trend in most cities was toward the initiation of diversified programs. One of the major reasons given by coordinators was that single occupation programs were often at the mercy of economic trends. This was particularly true in recent years when unemployment rates in most of the cities included in the sample increased significantly. Some of the trades previously important in cooperative education (such as printing and the machine trades) were also the victims of the movement of plants from the inner cities to the outlying suburbs. A fall-back position was to initiate diversified programs and seek student work stations in whatever occupational areas they could be found.

TABLE 2-1

Distribution of Case Study Sample
by Type of Program

Type of Program	Number of Programs Secondary	 Post-secondary	 Total
Single occupation	3	2	5
General occupation	12	4	16
Diversified	4	5	9
TOTAL	19	11	30

Coordinators at the secondary level pointed out that even though students were majoring in specific vocational education areas, many had not as yet made up their minds as to whether they wanted to make careers out of their majors. For example, one coordinator mentioned a girl who was majoring in business and office occupations but who had skill in drawing. He found her a job in advertising where her drawing skill was put to use. The point is that diversified programs provide students with the opportunity to explore different occupational areas before settling on a career.

At the post-secondary level, cooperative education programs were often open to students enrolled in all departments. Such programs by necessity were diversified in nature.

Table 2-2 presents the results of the bivariate correlation analysis by type of program. The major finding that emerged is that there were inverse correlations between six of the dependent variables, or "success criteria" and "type of program -- diversified." Completion rates for diversified programs were lower; fewer of the students interviewed said that the jobs fitted with their career interests; the programs were given lower student ratings; fewer of the students would recommend the programs to friends; and student attitudes toward the programs were less positive than the average for the total sample.

All this does not necessarily mean that diversified programs were less valuable than their single or general occupation counterparts; what it does mean is that the purposes and goals of diversified programs were so different from those of traditional cooperative

TABLE 2-2

Bivariate Correlation Analysis of Dependent and Independent Variables by Type of Programs for Secondary and Post-secondary Programs[a]

	Type of Program					
	Single Occupation		General Occupation		Diversified	
Dependent Variables	Secondary	Post-secondary	Secondary	Post-secondary	Secondary	Post-secondary
Completion rate	(*)	NA	$y_{(+)}$	NA	$x_{(-)}$	NA
Dropout rate	(*)	NA	$x_{(+)}$	NA	(*)	NA
Placement rate	(*)	NA	(*)	NA	(*)	NA
Placement, training related	$x_{(+)}$	NA	$x_{(-)}$	NA	(*)	NA
Job responsibility	(*)	$x_{(+)}$	$x_{(-)}$	(*)	(*)	(*)
Job satisfaction	(*)	$x_{(-)}$	$x_{(+)}$	(*)	(*)	(*)
School satisfaction	(*)	$x_{(-)}$	$x_{(+)}$	(*)	(*)	(*)
Program helped decide occupation	$x_{(+)}$	(*)	(*)	(*)	(*)	(*)
Desire job in same area	(*)	(*)	$x_{(+)}$	(*)	(*)	(*)
Program job fits with career interests	(*)	(*)	(*)	(*)	$x_{(-)}$	(*)
Overall student rating of program	(*)	(*)	(*)	(*)	$x_{(-)}$	(*)
Would recommend program to friend	(*)	(*)	(*)	(*)	$x_{(-)}$	(*)
Attitude toward program	(*)	(*)	(*)	(*)	$x_{(-)}$	(*)
Attitude toward job	(*)	$x_{(-)}$	(*)	$x_{(+)}$	(*)	(*)

[a] Key:

x = correlations at 0.05 significance levels.
y = correlation at 0.01 significance level.
(+) = variables increase or decrease together.
(-) = inverse relationship.
(*) = no correlation.
NA = not applicable.

education programs that comparisons between the two were difficult. Most students enrolled in diversified programs as "electives"; thus they may have been more interested in their school majors than in world-of-work instruction, or the jobs they obtained by means of the programs. Many diversified programs were aimed at potential dropouts, minorities, and disadvantaged individuals, whereas their more traditional counterparts were usually aimed at the "cream" of vocational education students. It is also true that diversified programs were easier to initiate and required less equipment (all they needed was a classroom) and less coordination with specific employer and union groups. Employers participating in single and general occupation programs generally required highly motivated and well-trained students; many employers participating in diversified programs were willing to settle for less.

Yet, as discussed in chapter 4, there was evidence to indicate that diversified programs helped in preventing dropouts and providing minority students with an exposure to job and career opportunities that otherwise would not have been available to them. The point is, however, that in the analyses which follow, the inclusion of so many diversified programs in the sample may have caused distortions that otherwise would not have occurred. In other words, if the sample had been restricted to single and general occupation programs, it is highly possible that the study's findings would have been more apt to support the conventional wisdom.

Table 2-2 also shows positive correlations between six of the dependent variables and "general occupation -- secondary"; the only inverse correlation occurred with respect to "placement in training related positions." As might be expected, "single occupation -- secondary" correlates highly with "program helped decide occupation" and "placement, training related." No significant trends were discovered for post-secondary programs. The inverse correlations shown in the "single occupation -- post-secondary" column should be reviewed with caution, since there were only two single occupations programs included in the post-secondary subsample.

Analysis by Size of City

Correlations of success criteria and size of city occurred most often in the category "large cities -- secondary" (Table 2-3). Three of the correlations were inverse: "dropout rate" (meaning that dropout rates increased in large cities); "job responsibility" (meaning that job responsibility decreased); and "attitude toward job" (meaning that attitudes toward jobs were less positive in large cities). On the other hand, there were positive correlations with "school satisfaction," "program helped decide occupation," and "would recommend program to friends." Since there were no correlations with dependent variables and "small cities," only three comparisons -- all between large and medium-size cities -- could be made at the secondary level. Job responsibility and attitude toward job increased in medium-size cities, but decreased in large cities; on the other hand, school satisfaction increased in large cities, but decreased in medium-size cities.

At the post-secondary level, it is interesting to note that in large cities, inverse correlations were identified between

TABLE 2-3

Bivariate Correlation Analysis of Dependent and Independent Variables by Size of City for Secondary and Post-secondary Programs[a]

	Size of City					
	Large		Medium		Small	
Dependent Variables	Secondary	Post-secondary	Secondary	Post-secondary	Secondary	Post-secondary
Completion rate	(*)	NA	(*)	NA	(*)	NA
Dropout rate	$x_{(-)}$	NA	(*)	NA	(*)	NA
Placement rate	(*)	NA	(*)	NA	(*)	NA
Placement, training related	(*)	NA	(*)	NA	(*)	NA
Job responsibility	$x_{(-)}$	(*)	$x_{(+)}$	(*)	(*)	(*)
Job satisfaction	(*)	(*)	(*)	(*)	(*)	(*)
School satisfaction	$x_{(+)}$	(*)	$x_{(-)}$	(*)	(*)	$x_{(+)}$
Program helped decide occupation	$x_{(+)}$	(*)	(*)	(*)	(*)	(*)
Desire job in same area	(*)	(*)	(*)	(*)	(*)	(*)
Program job fits with career interests	(*)	(*)	(*)	(*)	(*)	(*)
Overall student rating of program	(*)	$x_{(-)}$	(*)	(*)	(*)	$x_{(+)}$
Would recommend program to friend	$x_{(+)}$	(*)	(*)	(*)	(*)	(*)
Attitude toward program	(*)	$x_{(-)}$	(*)	(*)	(*)	$x_{(+)}$
Attitude toward job	$x_{(-)}$	(*)	$x_{(+)}$	(*)	(*)	(*)

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[a] Key:

x = correlations at 0.05 significance levels.
(+) = variables increase or decrease together.
(-) = inverse relationship.
(*) = no correlation.
NA = not applicable.

"overall student rating of program" and "student attitude toward program"; the exact opposite was true for small cities (see Table 2-3)

Unemployment Rates

Sixteen of the programs were located in cities with unemployment rates above the 1974 national average of 5.6 percent. Eleven were below and three were the same as the national average. There were no correlations between placement rates and unemployment rates for secondary programs (Table 2-4), although there was an inverse correlation for dropout rates and programs in cities with below average unemployment (that is, dropout rates were lower in cities with lower unemployment rates). The findings seemed to support the general feeling of ORC researchers that rising unemployment rates, with the exception of one program in a city where the unemployment rate was more than 15 percent, were not having an adverse effect on cooperative programs. Coordinators of single and general occupation programs in cities with above average unemployment rates expressed fears that if economic conditions continued to deteriorate, they would have difficulty in developing an adequate number of work stations for their students, but that point had not been reached at the time of the site visits. Coordinators of diversified programs, who sought work stations in whatever demand areas existed, were not overly concerned about rising unemployment rates.

Positive correlations were also found between "job satisfaction," "school satisfaction," and "desire job in same area (as school jobs)" -- and cities with below average unemployment rates; that is, scores on these variables tended to be high in cities with below average unemployment.

TABLE 2-4

Bivariate Correlation Analysis of Dependent and Independent Variables by Unemployment Rates for Secondary and Post-secondary Programs[a]

	Unemployment Rates					
	Below National Average		National Average		Above National Average	
Dependent Variables	Secondary	Post-secondary	Secondary	Post-secondary	Secondary	Post-secondary
Completion rate	(*)	NA	(*)	NA	(*)	NA
Dropout rate	$x_{(-)}$	NA	(*)	NA	(*)	NA
Placement rate	(*)	NA	(*)	NA	(*)	NA
Placement, training related	(*)	NA	(*)	NA	(*)	NA
Job responsibility	(*)	(*)	(*)	(*)	(*)	(*)
Job satisfaction	$x_{(+)}$	(*)	(*)	(*)	(*)	(*)
School satisfaction	$x_{(+)}$	(*)	(*)	(*)	(*)	(*)
Program helped decide occupation	(*)	(*)	(*)	(*)	(*)	(*)
Desire job in same area	$x_{(+)}$	$x_{(-)}$	(*)	(*)	$x_{(-)}$	$x_{(+)}$
Program job fits with career interests	(*)	(*)	(*)	(*)	(*)	(*)
Overall student rating of program	(*)	(*)	(*)	(*)	(*)	(*)
Would recommend program to friend	(*)	(*)	$x_{(+)}$	(*)	$x_{(-)}$	(*)
Attitude toward program	(*)	(*)	(*)	(*)	(*)	(*)
Attitude toward job	(*)	(*)	(*)	(*)	(*)	(*)

[a] Key:

x = correlations at 0.05 significance levels.
(+) = variables increase or decrease together.
(-) = inverse relationship.
(*) = no correlation.
NA = not applicable.

Student Characteristics

One of the recommendations of Part I of the study was that students be selected for work education programs on the basis of need (educational and otherwise) rather than on the basis of reward for good grades or for positive attitudes. The rationale was that participation in work education programs might improve student grades and attitudes toward both school and work. Many of the programs included in the urban-cooperative case study sample, especially the diversified programs (but also a few of the general occupation programs), were directed specifically toward below average students. The student characteristics analysis in Table 2-5 indicates that programs which enrolled below average to average students encountered far more problems with dropouts and student attitudes than those which enrolled above average students. This may have been because more of the below average students were enrolled in diversified or "catchall cooperative programs" than in their more traditional (and status-packed) counterparts. Regardless of the reasons, Table 2-5 shows that completely opposite results and attitudes occurred for high-grade and low-grade secondary students. It also shows that strong, positive correlations existed between several dependent variables and "enthusiasm of students" at both the secondary and post-secondary levels.

Because of the sharply contrasting findings between secondary students with above average grades and those with average or lower grades, they are shown separately in Table 2-6.

Students with A and B grades had higher degrees of school satisfaction, rated their programs higher, had more positive

TABLE 2-5

Bivariate Correlation Analysis of Dependent and Independent Variables by Student Characteristics for Secondary and Post-secondary Programs[a]

	Student Characteristics													
	Male		Female		Minority		Nonminority		A, B, Grades		C, D, F Grades		Enthusiasm of Student	
Dependent Variables	Secondary	Post-secondary	Secondary	Post-secondary	Secondary	Post-secondary	Secondary	Post-secondary	Secondary	Post-secondary	Secondary	Post-secondary	Secondary	Post-secondary
Completion rate	(*)	NA	(*)	NA	(*)	NA	(*)	NA	(*)	NA	(*)	NA	(*)	NA
Dropout rate	(*)	NA	(*)	NA	(*)	NA	(*)	NA	$x_{(-)}$	NA	$x_{(+)}$	NA	(*)	NA
Placement rate	(*)	NA	(*)	NA	$x_{(-)}$	NA	(*)	NA	(*)	NA	(*)	NA	(*)	NA
Placement, training related	(*0	NA	$x_{(-)}$	NA	(*)	NA	$x_{(+)}$	NA	(*)	(*)	(*)	(*)	$x_{(-)}$	NA
Job responsibility	(*)	NA	(*)	NA	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	$x_{(+)}$
Job satisfaction	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	$y_{(+)}$
School satisfaction	(*)	$x_{(+)}$	$x_{(-)}$	$x_{(-)}$	(*)	(*)	$x_{(+)}$	(*)	$x_{(+)}$	(*)	$x_{(-)}$	(*)	(*)	(*)
Program helped decide occupation	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	$x_{(+)}$	(*)
Desire job in same area	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)
Program job fits with career interests	$x_{(+)}$	(*)	$x_{(-)}$	(*)	(*)	(*)	(*)	(*)	$x_{(-)}$	(*)	$x_{(+)}$	(*)	(*)	(*)
Overall student rating of program	(*)	(*)	(*)	(*)	(*)	(*)	$y_{(+)}$	(*)	$y_{(+)}$	(*)	$y_{(-)}$	(*)	$y_{(+)}$	$y_{(+)}$
Would recommend program to friend	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	$y_{(-)}$	(*)	(*)	$x_{(+)}$
Attitude toward program	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	$y_{(+)}$	(*)	$y_{(-)}$	(*)	$x_{(+)}$	$x_{(+)}$
Attitude toward job	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	$y_{(+)}$

[a] Key:

x = correlations at 0.05 significance levels.
y = correlation at 0.01 significance level.
(+) = variables increase or decrease together.
(-) = inverse relationship.
(*) = no correlation.
NA = not applicable.

TABLE 2-6

Bivariate Correlation Analysis of Dependent and Independent Variables by Student Grades for Secondary Programs Only[a]

Dependent Variables	Student Grades	
	A and B	C, D, and F
School satisfaction	$x_{(+)}$	$x_{(-)}$
Desire job in same area	$x_{(-)}$	$x_{(+)}$
Overall student rating of program	$y_{(+)}$	$y_{(-)}$
Would recommend program to friend	(*)	$y_{(-)}$
Attitude toward program	$y_{(+)}$	$y_{(-)}$
Dropout rate	$x_{(-)}$	$x_{(+)}$

[a] Key:

x = correlations at 0.05 significance levels.
y = correlations at 0.01 significance levels.
(+) = variables increase or decrease together.
(-) = inverse correlation.
(*) = no correlation.

attitudes toward their programs, and were less likely to drop out. The exact opposite was true for students with C, D, or F grades, who also would be less likely to recommend their programs to friends. On the other hand, students with A and B grades were less likely to want full-time jobs in the same occupational areas as their school jobs. Once again, the opposite was true for C, D, and F students. The latter finding may be extremely significant for it could indicate that the expectations of average and below average students are lower than those of above average students and that they, more than their above average counterparts, should be enrolled in programs designed to prepare them for immediate post-school employment.

Administrative Analysis

The administrative analysis is broken down into three sections: (1) work stations, (2) counseling, and (3) miscellaneous administrative variables. The strongest relationships between success criteria and administrative variables occurred in the area of work stations, especially "training and supervision on the job."

Work Stations

Table 2-7 shows the relationships between success criteria and training and supervision on the job, integration of classwork and on-the-job training, and overall quality of work stations (as rated by the participating students interviewed). Strong correlations existed between several success criteria and training and supervision on the job at both the secondary and post-secondary levels. The same was true with regard to "integration of classwork and on-the-job training" at the secondary level, and overall quality of work stations at both levels.

TABLE 2-7

Bivariate Correlation Analysis of Dependent and Independent Variables by Work Stations for Secondary and Post-secondary Programs[a]

	Work Stations					
	Training and Supervision on the Job		Integration of Classwork, On-the-Job Training		Overall Quality of Work Stations	
Dependent Variables	**Secondary**	**Post-secondary**	**Secondary**	**Post-secondary**	**Secondary**	**Post-secondary**
Completion rate	$x_{(-)}$	NA	(*)	NA	$x_{(-)}$	NA
Dropout rate	(*)	NA	(*)	NA	(*)	NA
Placement rate	(*)	NA	(*)	NA	$x_{(+)}$	NA
Placement, training related	(*)	NA	(*)	NA	(*)	NA
Job responsibility	(*)	(*)	$x_{(+)}$	(*)	$x_{(+)}$	$y_{(+)}$
Job satisfaction	$x_{(+)}$	(*)	(*)	(*)	$x_{(+)}$	$x_{(+)}$
School satisfaction	$x_{(+)}$	(*)	$x_{(+)}$	(*)	(*)	$x_{(+)}$
Program helped decide occupation	$x_{(+)}$	(*)	(*)	(*)	(*)	(*)
Desire job in same area	(*)	(*)	(*)	(*)	(*)	(*)
Program job fits with career interests	$y_{(-)}$	$x_{(+)}$	$x_{(+)}$	(*)	(*)	(*)
Overall student rating of program	$x_{(+)}$	$x_{(+)}$	$x_{(+)}$	(*)	(*)	(*)
Would recommend program to friend	$x_{(+)}$	$y_{(+)}$	(*)	(*)	(*)	$x_{(+)}$
Attitude toward program	$x_{(+)}$	$x_{(+)}$	(*)	(*)	(*)	$x_{(+)}$
Attitude toward job	$x_{(+)}$	(*)	(*)	$y_{(+(}$	(*)	$x_{(+)}$

[a] Key:

x = correlations at 0.05 significance levels.
y = correlations at 0.01 significance levels.
(+) = variables increase or decrease together.
(-) = inverse relationship.
(*) = no correlation.
NA = not applicable.

There were, however, several correlations that appeared to be related which are difficult to explain -- all at the secondary level. For example, Table 2-7 implies that as training and supervision and on the job and the overall quality of work stations increased, completion rates decreased. The table also implies that as training and supervision on the job increased, the programs were less likely to fit with student career interests. The latter finding was at the 0.01 significance level -- which makes it hard to ignore. It would be easy to dismiss these findings as "sampling errors," but there may be legitimate reasons why they occurred. The most likely is that students enrolled in diversified programs (who are less likely to want careers in their school-job occupational areas) answered questions regarding "training and supervision on the job" and "overall quality of work stations" from a different perspective from students enrolled in single and general occupation programs. It is highly possible that students enrolled in diversified programs preferred as little supervision as possible, and felt uncomfortable in jobs which required a good deal of individual responsibility. In several cases, coordinators of diversified programs told ORC researchers that they refused job orders from employers which they thought were beyond the abilities of their students. Although such statements seemed paternalistic and condescending at the time, it may be that these coordinators were merely facing reality.

Table 2-8 (discussed more fully later) implies that as the ratio of students to coordinators increased, completion rates

TABLE 2-8

Bivariate Correlations Analysis of Dependent and Independent Variables by Miscellaneous Administrative Variables for Secondary and Post-secondary Programs[a]

	Miscellaneous Administrative Variables									
	Ratio of Students to Coordinator		**Enthusiasm of Teachers**		**Have Advisory Committee**		**Below Average Involvement**		**Above Average Involvement**	
Dependent Variables	**Secondary**	**Post-secondary**	**Secondary**	**Post-secondary**	**Secondary**	**Post-secondary**	**Secondary**	**Post-secondary**	**Secondary**	**Post-secondary**
Completion rate	$x_{(+)}$	NA	(*)	NA	(*)	NA	(*)	NA	(*)	NA
Dropout rate	$y_{(-)}$	NA	(*)	NA	(*)	NA	(*)	NA	(*)	NA
Placement rate	$y_{(+)}$	NA	(*)	NA	(*)	NA	(*)	NA	(*)	NA
Placement, training related	(*)	NA	(*)	NA	(*)	NA	(*)	NA	(*)	NA
Job responsibility	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)
Job satisfaction	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)
School satisfaction	(*)	$x_{(-)}$	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)
Program helped to decide occupation	(*)	$y_{(-)}$	$x_{(+)}$	(*)	(*)	$y_{(+)}$	$x_{(-)}$	(*)	$x_{(+)}$	(*)
Desire job in same area	(*)	(*)	(*)	$x_{(+)}$	(*)	(*)	$x_{(-)}$	$x_{(+)}$	(*)	$x_{(-)}$
Program job fits with career interests	(*)	(*)	(*)	(*)	(*)	(*)	(*)	$x_{(+)}$	(*)	$x_{(-)}$
Overall student rating of program	(*)	(*)	$y_{(+)}$	$y_{(+)}$	(*)	(*)	(*)	$y_{(+)}$	(*)	$y_{(-)}$
Would recommend program to friend	(*)	(*)	$x_{(+)}$	$y_{(+)}$	(*)	(*)	(*)	$y_{(+)}$	(*)	$x_{(-)}$
Attitude toward program	(*)	(*)	$y_{(+)}$	$y_{(+)}$	(*)	(*)	(*)	$x_{(+)}$	(*)	$x_{(-)}$
Attitude toward job	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)

[a] Key:

x = correlations at 0.05 significance levels.
y = correlations at 0.01 significance levels.
(+) = variables increase or decrease together.
(-) = inverse relationships.
(*) = no correlation.
NA = not applicable.

increased and dropout rates decreased (for secondary students) -- the opposite of what was expected. It may be, however, that this finding fits the anomalies shown in Table 2-7. Some students, especially those enrolled in diversified programs, may have been as averse to close supervision in the classroom as they were to close supervision on the job.

What all of this could mean is that when dealing with urban students, especially those who in a former era would not have been considered "qualified" for enrollment in cooperative education programs, it may be necessary to modify traditional teaching and administrative techniques. This does not necessarily mean that the ratio of students to coordinators should be increased, and training and supervision on the job decreased, but that care should be taken to modify expectations for students who are not accustomed to, or motivated to accept close supervision either in school or on the job.

Counseling

Table 2-9 indicates that students who received highly rated and effective counseling rated their programs higher, were more likely to recommend the programs to friends, and had more positive attitudes toward their programs. These correlations are strongest at the secondary level ("student rating of counseling"), but they also occurred at the post-secondary level. It should be noted that the counseling process is not limited to school guidance personnel, but is a shared responsibility of the coordinator, employers and others. It is unclear as to who is having the most positive impact on students.

TABLE 2-9

Bivariate Correlations Analysis of Dependent and Independent Variables by Counseling for Secondary and Post-secondary Programs[a]

	Counseling					
	Received Counseling		Student Rating of Counseling		Effect of Counseling	
Dependent Variables	**Secondary**	**Post-secondary**	**Secondary**	**Post-secondary**	**Secondary**	**Post-secondary**
Completion rate	(*)	NA	(*)	NA	(*)	NA
Dropout rate	(*)	NA	(*)	NA	(*)	NA
Placement rate	(*)	NA	(*)	NA	(*)	NA
Placement, training related	(*)	NA	(*)	NA	(*)	NA
Job responsibility	$x_{(+)}$	(*)	(*)	(*)	(*)	$x_{(+)}$
Job satisfaction	(*)	(*)	(*)	(*)	(*)	(*)
School satisfaction	(*)	(*)	(*)	(*)	(*)	(*)
Program helped decide occupation	(*)	(*)	(*)	(*)	(*)	(*)
Desire job in same area	(*)	(*)	(*)	(*)	(*)	$x_{(+)}$
Program job fits with career interests	(*)	(*)	(*)	(*)	(*)	(*)
Overall student rating of program	(*)	(*)	$y_{(+)}$	$x_{(+)}$	$x_{(+)}$	$x_{(+)}$
Would recommend program to friend	(*)	(*)	$y_{(+)}$	$x_{(+)}$	$x_{(+)}$	$x_{(+)}$
Attitude toward program	(*)	(*)	$y_{(+)}$	$x_{(+)}$	(*)	$x_{(+)}$
Attitude toward job	(*)	(*)	(*)	(*)	(*)	(*)

[a] Key:

x = correlations at 0.05 significance levels.
y = correlations at 0.01 significance levels.
(+) = variables increase or decrease together.
(-) = inverse relationship.
(*) = no correlation.
NA = not applicable.

Miscellaneous Administrative

Three commonly held assumptions regarding cooperative education are that the ratio of students to coordinator should be no more than 25 (preferably less), that teachers (or coordinators) should approach their cooperative responsibilities with enthusiasm, and that each program should have an active and involved advisory committee (made up mainly of employers) to help with curriculum and job development, as well as provide "seals of approval" for programs.

The attempt was made to determine whether significant relationships existed between success criteria and these assumptions. The results were quite mixed. Table 2-8 (seen earlier) indicates that at the post-secondary level the more involved advisory committees became, the poorer were the results; the few correlations found at the secondary level were exactly the opposite. As was noted before, because of the small number of post-secondary programs included in the sample, findings regarding post-secondary programs are subject to sampling error. It is also possible that a high level of advisory committee activity had been initiated in some cases in an attempt to correct problems which had been identified by persons outside the program. The use made of advisory committees is discussed in chapter 4; in some cases advisory committees performed important services for programs; in others, they were relatively unimportant. The services they performed, however, do not lend themselves to statistical analysis.

Strong correlations emerged at both the secondary and post-secondary levels between enthusiasm of teachers and several success variables. As the enthusiasm of teachers increased (as rated by participating students), students were more likely to decide on occupations, give programs higher ratings, recommend programs to friends, and have more positive attitudes toward programs.

THE MODEL

For model construction purposes, six dependent variables (or "success criteria") were identified:

(1) Job satisfaction (as rated by students)

(2) School satisfaction (as rated by students)

(3) Program helped students decide on occupation

(4) Students desired full-time jobs in same occupational areas as school jobs

(5) School jobs fitted with students' career interests

(6) Students would recommend program to others

Originally, completion and placement rates were also among the dependent variables, but because they were not available for most post-secondary programs, they were dropped. Data relating to the six dependent variables listed above, obtained through student interviews, were available for all programs. High ranges of positive answers (above the percentages or means for the total sample of participating students interviewed) to questions relating to the six dependent variables were considered successful outcomes. The fourteen independent variables were as follows:

(1) Male or female

(2) Percentage of minority students

(3) Grades A or B (as listed by students)

(4) Ratio of students to coordinator

(5) Integration of classwork and on-the-job training (as rated by students)

(6) Enthusiasm of students (as rated by students)

(7) Enthusiasm of teachers (as rated by students)

(8) Size of city -- large

(9) City with above average unemployment

(10) Program type -- diversified

(11) Student rating of counseling

(12) Percentage of students who received counseling

(13) Program level -- secondary

(14) Job responsibility (as rated by students)

In Table 2-10 (multiple regression analysis), only the beta (B) are shown for those predictor variables significantly related to success criteria, or which substantially increase the proportion of variance accounted for by the model.

Although significant correlations were discovered, they were for the most part scattered, and several anomalies occurred which were difficult to explain. Moreover, five of the significant correlations were between independent variables and "students recommend program," the least explanatory of the dependent variables, since students could recommend programs for a variety of reasons other than their educational quality. Thus, although the correlations discovered are interesting, they are of less help to program personnel than had been expected.

TABLE 2-10

Multiple Regression Analysis

Independent Variables for Male Students	Beta Significance					
	Job Satis-faction	School Satis-faction	Program Decided Occupation	Desire Job in Same Area	Program Fits Career	Students Recommend Program
Percent minority		-0.27				
Enthusiasm of students	+0.25	+0.36[a]				
Secondary programs	+0.41[b]			-0.33[a]		+0.40[b]
Diversified programs						-0.33[a]
Above average unemployment		-0.61[b]				
Ratio of students to coordinator			-0.37[a]			+0.18
Integration of classwork and on-the-job training		+0.40[a]			+0.58[b]	
Enthusiasm of teachers			+0.29	+0.36[a]		
Availability of counseling		-0.37[a]				-0.35[b]
Student rating of counseling						+0.62[b]
Job responsibility	+0.72[b]					+0.52[b]
PROPORTION OF VARIANCE ACCOUNTED FOR	0.54	0.51	0.21	0.28	0.34	0.69

[a] Significant at the 0.05 level.

[b] Significant at the 0.01 level.

The following trends emerged (only those correlations at the 0.01 and 0.05 levels of significance are summarized in the narrative:

(1) Job satisfaction: At the secondary level, job satisfaction increased for students who indicated higher levels of job responsibility and for programs where the enthusiasm of students was rated highly.

(2) School satisfaction: The most significant correlation was between programs in areas with average or below average unemployment rates; that is, students in areas with lower unemployment rates enjoyed greater school satisfaction. Other positive correlations found were:

  (a) As the enthusiasm of students increased, job satisfaction increased.

  (b) As the level of integration of classwork and on-the-job training increased, job satisfaction increased. One of the anomalies identified was that school satisfaction decreased as the availability of counseling increased (it should be emphasized that this finding relates solely to the availability of counseling, not to the quality of counseling)

(3) Students recommend program: Students within secondary single or general occupation programs were more likely to recommend their programs than those in diversified programs. Other positive correlations found were:

  (a) Students with higher levels of job responsibility were more likely to recommend programs.

(b) In direct opposition to 2b above, as the availability of counseling increased, students were more likely to recommend programs.

Another of the anomalies discovered was that as the ratio of students to coordinator increased, students were more likely to recommend programs. This may have been due simply to popular coordinators attracting large enrollments of students.

For the dependent variables "program helped decide occupation," "students desire full-time jobs in same areas as school jobs," and "program fits with student career interests," the level of variance accounted for was insufficient for prediction.

Generally speaking, the attempt at model construction did not result in the identification of a pattern for successful programs, as opposed to those which were not so successful. The question was raised, therefore, as to why no pattern emerged. Based on the preceding bivariate correlation analysis, several reasons, which may be more significant than the model itself, are suggested.

First, the sample included both secondary and post-secondary programs. The responses of post-secondary students to questions pertaining to the dependent variables were often different from the responses of secondary students. The mixing of the two may have caused distortions which otherwise would not have occurred. The problem was, however, that if the thirty case study programs were stratified by educational level, the two cells (secondary and post-secondary) would become too small to lend themselves to statistical analysis. Nevertheless, in the preceding bivariate analysis, the findings were broken out by educational level and, despite the inadequacy of the number of programs in each cell (especially post-secondary in which there were only eleven programs), some significant trends emerged.

Second, the administrative, independent variables tested are usually applied to single or general occupation programs. The unexpected number of diversified programs that appeared in the sample -- programs which appeared to be a "catchall" for students majoring in a variety of occupational areas -- may have rendered many of the administrative variables irrelevant. For example, in a single occupation printing program, the integration of classroom instruction with on-the-job training would be very important; but in a diversified program, the classroom instruction (world of work) has only a nebulous relationship to the actual work performed on the job. Since nearly one-third of the programs were diversified (a fact that was unknown until the field work was completed), and since there was no reason to suspect that the same administrative variables which apply to single and general occupations programs would not also apply to diversified programs, the results may have been distorted.

Finally, as is discussed in chapter 4, most of the programs studied were operating under the most simple of administrative structures possible, that is, a coordinator and his or her students. Thus the success of most programs depended entirely on the talents, energy, and commitment of coordinators -- factors which are not susceptible to statistical analysis.

STUDENT ANALYSIS

The objectives of the student analysis were to compare outcomes, with respect to selected success criteria, for the following:

(1) Participants in the thirty urban-cooperative case study programs and cohort group of nonparticipants

(2) Participants with varying characteristics (male and female, minority and nonminority)

(3) Participants in the urban case study sample and cooperative education participants in the Part I sample (composed mainly of students from suburban areas or small towns)

The analysis is based on interviews with 1,449 students, 675 of whom were participating in the case study programs (774 were not participating). Of the 774 nonparticipating students, 451 were working, whereas 618 of the 675 participants were working. Thus comparisons with respect to experience on the job are based on interviews with 618 working participants and 451 working nonparticipants.

Table 2-11 shows the characteristics of participating and nonparticipating students by sex, racial and ethnic background, grades (as listed by students), and grade level. With the exception of grade level, secondary school participants and nonparticipants came within one to three percentage points of sharing the same characteristics. Far more secondary school participants than nonparticipants were at the twelfth grade level, and a relatively large percentage of nonparticipants were at the ninth and tenth grade levels (12 percent, as compared to only 1 percent for participants). However, most of the nonparticipants at the ninth

TABLE 2-11

Characteristics of Participating and Nonparticipating Students in Case Study Sample

(Percentages)

		Secondary		Post-secondary	
Characteristics	Total Sample	Participating	Nonparticipating	Participating	Nonparticipating
Sex:					
Male	60%	52%	56%	72%	69%
Female	40	48	44	28	31
Race or ethnic background:					
White	50	39	41	58	72
Black	35	44	41	30	17
Spanish-surnamed	12	14	16	8	6
Other	3	3	2	4	5
Grades achieved:					
A or B	58	54	55	69	64
C, D, or F	41	46	45	31	36
Grade level:					
Ninth to tenth	5	1	12	1	
Eleventh	19	20	38		
Twelfth	40	77	50	2	1
Thirteenth or higher	35			95	99
No answer	1	2		2	

and tenth grade levels were not working; thus, when this group was eliminated, the percentages of participants and nonparticipants at the eleventh and twelfth grade levels (where most of the working students were found) would come within nine percentage points of being the same.

Males, nonminorities, and students with A or B grades predominated at the post-secondary level, although with the exception of racial and ethnic background, the balance between post-secondary participants and nonparticipants was rather close. Far more post-secondary nonparticipants were nonminority than participants.

Overall Comparisons

Comparisons between participants and nonparticipants were made in the following areas:

(1) Attitudes toward work stations or jobs

(2) School satisfaction

(3) Career goals

(4) Student recommendation of program

Attitudes toward Work Stations or Jobs

Participant and nonparticipant attitudes toward work stations or jobs were based on the following:

(1) Job satisfaction: Based on the average number of positive responses to a series of attitudinal questions pertaining to job satisfaction, a profile was created for the sample as a whole, for participating and nonparticipating students.

(2) Job responsibility: Job responsibility profiles for the sample as a whole, participating and nonparticipating students were based on a series of questions relating to the tasks students were assigned on the job, the supervision they received, and the amount of responsibility that was vested in them.

(3) Training and supervision on the job: Students were asked to rate on a scale of 1 to 8 the quality of the training and supervision they received on the job. The average

rating was calculated for the sample as a whole, for participating and nonparticipating students.

(4) Overall quality of work stations: Students were asked to rate the overall quality of their work stations or jobs on a scale of 1 to 9. The average rating was calculated for the sample as a whole, for participating and nonparticipating students.

Table 2-12 shows that the means for job satisfaction and job responsibility were higher for both secondary and post-secondary school participants than for nonparticipants, with post-secondary participants scoring higher than secondary participants, especially in job responsibility. On the other hand, nonparticipants rated the overall quality of their jobs slightly higher than did participants, and rated the training and supervision they received on the job at approximately the same level as did participants. However, it should be noted that students enrolled in cooperative programs *expect* higher quality work stations and more training and supervision on the job than nonparticipants, who are not enrolled in school-related work education programs. The participants, therefore, may have been far more critical in rating work stations and training and supervision than nonparticipants. Other reasons for these apparent anomalies are discussed in chapter 4.

School Satisfaction

Participating students were asked whether they liked school better, the same, or worse after entering the program; nonparticipating students were asked whether they liked school better, the same, or worse after obtaining jobs. Table 2-13 shows that 45 percent

TABLE 2-12

Attitudes toward Jobs and Work Stations for Participating and Nonparticipating Students

(Means)

Variable	Total Sample	Secondary Particlpating	Secondary Nonparticipating	Post-secondary Participating	Post-secondary Nonparticinptaing
Job satisfaction[a]	68.0	70.0	64.0	72.0	63.0
Job responsibility[a]	60.0	59.0	55.0	67.0	62.0
Overal quality of work stations[b]	4.9	4.7	5.4	4.6	5.1
Supervision and training[c]	5.6	5.7	5.7	5.5	5.3

[a] Average of positive responses to series of questions.

[b] Average student rating on a scale of 1 to 9.

[c] Average student rating on a scale of 1 to 8.

TABLE 2-13

School Satisfaction after Enrolling in Cooperative Program (Participants) or Obtaining Job (Nonparticipants) for Secondary and Post-secondary Programs

(Percentages)

School Satisfaction	Secondary Participating	Secondary Nonparticipating	Post-secondary Participating	Post-secondary Nonparticipating
Better	45%	12%	45%	16%
The same	45	76	48	62
Worse	8	8	5	12
No response	2	4	2	10

of all participating students liked school better after becoming enrolled in cooperative programs; the corresponding figure for nonparticipants was only 12 percent for secondary school students and 16 percent for post-secondary students.

Career Goals

Both participants and nonparticipants were asked whether the jobs they held fitted very well, moderately well, or not at all with their career interests, and whether they expected to seek full-time jobs in the same occupational areas as their school jobs.

Participants at both levels responded far more positively to these questions than nonparticipants, with post-secondary participants responding more positively than secondary participants. Nearly half of the post-secondary school participants said that their school jobs fitted very well with their career interests, and 72 percent said that they expected to seek full-time jobs in the same occupational areas as their school jobs. The corresponding figures at the secondary level were 28 and 60 percent respectively (see Table 2-14).

Student Recommendation of Program or Job

Table 2-15 shows participant answers to the question, "Would you recommend this program to friends?" and nonparticipant responses to "Would you recommend your job to friends?" The vast majority of participants at both the secondary and post-secondary school levels would recommend their programs to friends. Approximately 64 percent of the nonparticipants said that they would recommend their jobs to friends.

TABLE 2-14

Participant and Nonparticipant Responses to Questions Concerning Career Goals (Percentages)

		Secondary		Post-secondary	
Career Goals	Total Sample	Particlpating	Nonparticipating	Participating	Nonparticipating
Job fits with career interests:					
Very well	29%	28%	16%	47%	26%
Moderate	39	48	36	32	33
Not at all	30	23	45	18	38
No response	2	1	3	3	3
Expect full-time job in same occupation:					
Yes	59	60	39	72	50
No	41	38	57	24	45
No response	0	2	4	4	5

TABLE 2-15

Student Recommendations of Program (Participants) and Jobs (Nonparticipants) to Friends (Percentages)

	Secondary		Post-secondary	
	Participating	Nonparticipating	Participating	Nonparticipating
Recommend program or job:				
Yes	92%	61%	88%	56%
No	6	34	7	38
Response	2	5	5	6

Summary

With respect to the sample as a whole, the results of the student analysis showed that participants in urban-cooperative education programs experienced higher job satisfaction and job responsibility than their working nonparticipating counterparts, were more likely to be satisfied with school, believed that their jobs fitted more with their career goals, and were more likely to recommend their program to friends.

Comparisons by Sex and Minority Status

The following comparisons were made by sex and minority status:

(1) Attitudes toward work stations or jobs
(2) School satisfaction
(3) Career goals
(4) Student recommendation of program or job
(5) Occupational area
(6) Wages earned on the job

Comparisons by Sex

Table 2-16 indicates that more female than male participants at the secondary school level experienced satisfaction in their jobs, but that fewer females experienced increased school satisfaction after enrolling in cooperative education programs, or desired jobs in the same occupational areas as their school jobs. Yet more female than male participants would recommend their programs to friends.

At the post-secondary level, the pattern changed somewhat. Fewer women experienced job satisfaction, high levels of job responsibility, and increased school satisfaction, and fewer would

TABLE 2-16

Comparisons between Male and Female Participating and Nonparticipating Students in Selected Success Criteria[a]

(Percentages)

Success Variables	Total Sample				Males				Females			
	Secondary		Post-secondary		Secondary		Post-secondary		Secondary		Post-secondary	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Job satisfaction	70%	64%	72%	63%	68%	62%	74%	62%	76%	66%	66%	65%
Job responsibility	58	55	67	61	59	55	69	66	58	54	61	57
School satisfaction[b]	46	16	45	18	50	16	51	20	44	9	34	13
Desire job in same area[c]	58	39	72	50	65	38	74	52	58	44	76	54
Program helped decide occupation[d]	68	47	52	50	67	45	52	54	73	54	65	48
Would recommend program to friend[e]	92	61	88	56	93	61	95	58	95	70	84	64

[a] Key:
(1) = participating students.
(2) = nonparticipating students.

[b] Percentage who responded "liked school better" after enrolling in program (participants) or obtaining job (nonparticipants).

[c] Percentage who responded that they wanted a full-time job in same occupational area as their school job.

[d] Percentage who responded that the program (participants) or job (nonparticipants) helped then decide on a career.

[e] Percentage who would recommend program (participants) or job (nonparticipants) to friends.

recommend their programs to friends. On the other hand, more women participants than men desired occupations in the same occupational areas as their school jobs and said that their programs helped them decide on occupations.

The occupational areas in which women were concentrated and the wages they were paid may have accounted for their somewhat less positive attitudes toward the programs. Table 2-17 shows that women earned less than men at both the secondary and post-secondary levels (where women earned an average of $1.62 an hour less than men). This finding must be coupled with the follow-up study finding that women who were trained in the same occupational areas as men were earning considerably less than men two years after their training. The follow-up study showed, for example, that in the sales and management area, women were earning half as much as men, and in the professional area, they were earning an average of $1.88 an hour less than men.

TABLE 2-17

Comparisons between Wages Paid to Women and Men for Secondary and Post-secondary Programs

	Average Hourly Rate			
	Secondary		Post-secondary	
Sex	Participating	Nonparticipating	Participating	Nonparticipating
Male	$2.38	$2.52	$4.28	$4.08
Female	$2.22	$2.06	$2.66	$2.88

It was expected that participating students would have lower hourly wages than nonparticipants because of the cost to the employer of providing a more structured training program for participants. This hypothesis held true only for male secondary school students and for female post-secondary school students. Reasons for the reverse being true for female secondary and male post-secondary school minority students appears to have been a factor at the post-secondary school level (see Table 2-17). These data also indicate that 26 percent of the female participants and 20 percent of the males were earning wages either at or below the minimum wage.

Table 2-18 shows that women at the secondary level were employed primarily in the clerical (63 percent), sales and management (13 percent), and service (20 percent) occupational areas; men were fairly well distributed throughout all occupational areas and were virtually the only participants in the blue-collar area (skilled craftsmen, operators, and so forth).

Comparison by Minority and Nonminority

Table 2-19 indicates that the experience of minority participants at the post-secondary level was better than that of nonminorities in all but one category -- "program helped decide occupation." Post-secondary minorities experienced greater job satisfaction, job responsibility, and school satisfaction than nonminorities. This ties in with the follow-up study which shows that minority post-secondary participants in work education programs have economic outcomes better than those of minority nonparticipants and equal to those of nonminority participants.

At the secondary level, the findings were almost opposite. Nonminorities fared better than minorities in every category except

TABLE 2-18

Occupational Areas in Which Male and Female Participants and Nonparticipants Were Employed for Secondary and Post-secondary Programs[a]

(Percentages)

Occupational Area	Male				Female			
	Secondary		Post-secondary		Secondary		Post-secondary	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Professional	2.6%	2.8%	7.6%	3.1%	2.2%	4.9%	8.3%	6.3%
Clerical	20.9	12.8	20.7	16.5	63.0	44.1	16.7	46.9
Sales and management	4.2	12.8	25.5	18.1	12.7	14.7	58.3	29.7
Blue collar	56.0	33.3	41.4	52.0	1.7	2.0	6.3	4.7
Service	16.2	38.3	4.8	10.2	20.4	34.3	10.0	12.5

[a] Key:
(1) = participating students.
(2) = nonparticipating students.

"program helped decide occupation." In only two categories, however, did nonminorities score considerably higher than minorities -- "school satisfaction" and "desire job in same occupational area as school job."

Once again, the occupational areas and the wages received by minorities appear to account for the differences. At the post-secondary level, minority participants were earning an average of $1.66 an hour more than nonminority participants, whereas at the secondary level, minority participants were earning slightly less than nonminority participants (Table 2-20).

TABLE 2-19

Comparisons between Minority and Nonminority Participating and Nonparticipating Students in Selected Success Criteria for Secondary and Post-secondary Programs[a]

(Percentages)

Success Variables	Total Sample				Minorities				Nonminorities			
	Secondary		Post-secondary		Secondary		Post-secondary		Secondary		Post-secondary	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Job satisfaction	70%	64%	72%	63%	70%	68%	66%	58%	71%	59%	58%	58%
Job responsibility	58	55	67	61	57	61	69	67	61	52	67	54
School satisfaction[b]	44	16	44	23	44	16	44	23	52	9	47	17
Desire job[c]	60	39	72	50	54	48	81	32	72	32	70	52
Program, job decision[d]	68	47	52	50	71	56	48	60	69	40	59	50
Recommend program[e]	92	61	88	56	93	66	94	54	95	64	90	60

[a] Key:
(1) = participating students.
(2) = nonparticipating students.

[b] Percent who responded "liked school better" after enrolling in program (participants) or obtaining job (nonparticipants).

[c] Percent who responded that they wanted full-time jobs in same occupational area as their school jobs.

[d] Percent who responded that program (participants) or job (nonparticipants) helped decide career.

[e] Percent who would recommend program to friends.

TABLE 2-20

Comparisons between Wages Paid to Minorities and Nonminorities for Secondary and Post-secondary Programs

Category	Average Hourly Rate			
	Secondary		Post-secondary	
	Participating	Nonparticipating	Participating	Nonparticipating
Nonminorities	$2.36	$2.50	$3.31	$3.46
Minorities	$2.19	$2.20	$4.97	$4.37

At the secondary level, minorities predominated in the clerical (45 percent), management, and professional occupational areas, but very few were blue collar (21 percent) and service (21 percent). At the post-secondary level, a higher percentage of minorities were employed in blue-collar trades (36 percent), and very few were working in the service trades (Table 2-21).

Summary

On the whole, women enrolled in the sample of case study programs were less satisfied than men, probably because the range of occupational offerings available to women was narrower than that of men, and the wages they were paid were lower. Post-secondary minorities, on the other hand, were more satisfied with the cooperative experience than their nonminority counterparts. They earned nigher wages than nonminorities and had greater access to blue-collar jobs than secondary school minority participants. High school minority participants were generally less favorable to the programs than nonminorities, but the differences between the two groups were not great. More minority

TABLE 2-21

Occupational Areas in Which Minority and Nonminority Participants and Nonparticipants Were Employed for Secondary and Post-secondary Programs[a]

(Percentages)

Occupational Area	Male				Female			
	Secondary		Post-secondary		Secondary		Post-secondary	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Professional	2.9%	5.2%	5.5%	7.9%	1.9%	1.9%	9.4%	2.7%
Clerical	44.9	31.3	31.5	34.2	37.0	19.4	12.0	25.7
Sales and management	11.2	13.4	19.1	10.5	4.3	13.9	41.9	25.7
Blue collar	20.5	11.2	35.6	34.2	41.4	31.5	31.6	36.5
Service	20.5	38.8	8.2	13.2	15.4	33.3	5.1	9.5

[a] Key:
(1) = participating students.
(2) = nonparticipating students.

than nonminority participants at the secondary school level said that cooperative programs had helped them decide on an occupation, indicating that work education is perceived as being of help in exposing minorities to occupational alternatives.

Comparisons between Part I and Part II Participants

Comparisons were made between participants in the cooperative education, or "special occupation," programs included in the Part I case study sample and Part II participants. The objective was to determine whether any substantial differences in work stations and attitudes toward programs existed between participants in urban programs

(Part II participants) and those who were enrolled primarily in suburban or small town programs (Part I participants). Although the interviews took place two years apart, substantially the same questions were asked both groups of participants, and the same methods were used for interpreting the responses. Of course, factors other than the geographical locations of the programs, such as the economic conditions existing at the time the interviews were conducted, may have had an effect on the responses of participants in both groups, but because one of the groups was solely urban and the other was primarily non-urban, it was assumed that differences would be discovered.

Characteristics of Part I and Part II Participants

With two major exceptions, the two samples share similar characteristics. The first major exception pertains to minority and nonminority enrollment. As might be expected, the urban sample contains far more minorities, especially blacks. Sixty-one percent of the urban sample's secondary school participants were minorities (44 percent black), as against 27 percent for the non-urban sample (20 percent black). At the post-secondary level, 42 percent of the urban sample was minority (30 percent black); the corresponding figure for the non-urban participants was 32 percent (12 percent black).

The second major exception was that at the post-secondary level, the urban sample was predominately male (72 percent), as against only 46 percent for the non-urban sample (see Table 2-22).

TABLE 2-22

Characteristics of Part I (Non-urban) and Part II (Urban) Cooperative Education Participants for Secondary and Post-secondary Programs

Participant Characteristics	Secondary: Part II (Urban) Participating	Secondary: Part I (Non-urban) Participating	Post-secondary: Part II (Urban) Participating	Post-secondary: Part I (Non-urban) Participating
Sex:				
Male	52%	54%	72%	46%
Female	48	46	28	54
Race and ethnic background:				
White	39	74	58	57
Black	44	20	30	12
Spanish-surnamed	14	NA[a]	8	(a)
Other	3	6	4	31
Grades:				
A and B	54	47	69	74
C, D, and F	46	53	31	26
Grade levels:				
Ninth to tenth	1	6	1	
Eleventh	20	17		
Twelfth	77	76	2	2
Thirteenth		1	95	98
No answer	2		2	

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[a] The Part I study did not break Spanish-surnamed participants out as a separate category; it can be assumed, however, that the bulk of "other" Part I participants is Spanish-surnamed.

The Results

Although the non-urban participants responded more favorably with respect to most of the success criteria, the differences between the two groups were not great in most cases. More urban than non-urban participants expressed satisfaction with their jobs, and at the secondary level, more urban participants said that the programs helped them decide on a career. At the post-secondary level, far more urban than non-urban participants (72 percent against 32 percent) said that they expected to find full-time jobs in the same occupational areas as their school jobs. The latter may have been due to the predominance of males in the post-secondary urban sample.

On the other hand, slightly more non-urban than urban participants experienced higher job responsibility, said that they liked school better after enrolling in cooperative programs, and responded that their cooperative jobs fitted very well with their career interests (see Table 2-23).

The significance of these findings with respect to cooperative education in urban areas (for enrollments which are heavily minority) is that the outcomes of the urban programs were almost the same as those for non-urban programs, and in several important areas (job satisfaction and program helped decide career) were better. Thus it would appear that cooperative education in urban areas is at least as beneficial (and in some ways more beneficial) than cooperative education programs in non-urban areas.

COMPLETION AND PLACEMENT RATES

The attempt was made to collect school year 1973-74 (the year immediately preceding the site visits) completion and placement information for all programs included in the urban case study sample. However, because of the transitory nature of post-secondary enrollment

TABLE 2-23

Comparisons between Part I (Non-urban) Part II (Urban) Participants Responses to Success Criteria Questions for Secondary and Postsecondary Programs (Percentages)

	Secondary		Post-secondary	
Success Criteria	Part 2 (Urban) Participating	Part 1 (Non-urban) Participating	Part 2 (Urban) Participating	Part 1 (Non-urban) Participating
Job satisfaction (mean)	70%	63%	72%	68%
Job responsibility (mean)	59	60	67	68
School satisfaction "better" after program	46	54	45	48
Job fits career interest -- "very well"	28	30	47	59
Desire full-time job -- "yes"	60	74	72	32
Helped decide occupation -- "yes"	68	60	52	51

and the absence of records for post-secondary programs, it was not possible to calculate completion and placement rates for post-secondary programs. Thus the figures listed in Table 2-24 pertain solely to secondary programs. Generally speaking, completion and placement rates were high for the urban case study programs. The average completion and placement rates were 84 and 70 percent respectively; and the training-related placement rate was 75 percent.

TABLE 2-24

Completion and Placement Rates by Unemployment Rates, Size of City, and Type of Program

(Percentages)

Variables	Number of Programs	Average Completion Rate[a]	Average Placement Rate[b]	Placement, Training-Related[c]
Unemployment:				
Below national average	11	84%	79%	75%
National average[d]	3	82	79	64
Above national average	16	85	54	85
Size of city:				
Small	10	83	74	78
Medium	10	91	59	78
Large	10	81	73	74
Type of program:				
Single occupation	5	89	44	100
General occupation	16	90	68	67
Diversified	9	68	80	76

[a] Percentage of students enrolled in cooperative education programs who remained in the programs until their completion.

[b] Percentage of students who completed cooperative education programs who were placed in jobs after granduation.

[c] Percentage of program completers who were placed in jobs which were closely related to their school training.

[d] The national average is 5.6 percent.

Table 2-24 breaks down completion and placement rates by programs in cities with varying unemployment rates in 1974, size of city, and type of program. Because of the small size of several of the cells (e.g., programs in cities with unemployment rates equal to the 1974 national average, and single occupation programs), caution should be exercised in interpreting the table.

Three major points were highlighted by this analysis:

(1) The average completion rate for diversified programs was between 21 and 22 percentage points lower than the completion rates of single and general occupation programs.

(2) The average placement rate for programs in cities with above average unemployment was between 23 and 25 percentage points lower than the placement rates for programs in cities with below average and average unemployment rates.

(3) The average training-related placement rate for general occupation programs was 9 percentage points lower than that of diversified programs.

It would appear, therefore, that diversified programs were more susceptible to dropouts than single and general occupations programs. The question arises as to whether this was because of the characteristics of their enrollments or because of the nature of diversified programs. The answer seems to be that it was a combination of both. Most diversified programs were aimed at either disadvantaged students or students with low grade-point averages (or "potential dropouts"). Programs which aim at such a target population must expect higher dropout rates or lower completion rates. On the other hand, most diversified programs were so loosely constructed, in comparison to single and general occupation programs, that students often may not have taken them very seriously. In most cases, the attempts to integrate classroom instruction with on-the-job experience were not substantial, and the jobs to which students were assigned were seldom related to their vocational education majors. These factors probably accounted for the lower completion rates of diversified programs.

The relatively low placement rates for programs located in cities with above average unemployment indicates that even though it may not have been difficult to find part-time work stations for students while they were in school, it was quite another matter for students to find full-time employment after graduation. Thus it would appear that if the ultimate outcome for cooperative education programs is considered to be employment of students in full-time jobs after graduation, this can be adversely affected by poor economic conditions.

The fact that the training-related placement rate for general occupation programs was lower than the corresponding rates for single occupation and diversified programs was not surprising. Students trained in "cluster occupations" can easily move into other occupational areas, and often do. At any rate, a training-related placement rate of nearly 70 percent cannot be considered bad.

3

STATISTICAL SUMMARY -- THE FOLLOW-UP STUDY

The follow-up study, described in detail in Volume 2, consisted of reinterviews with 803 participants in work education programs and a cohort group of 701 nonparticipants who were first interviewed in 1973 during Part I of the study. The objectives of the study were:

(1) To locate and interview former participants and comparison group members from three different types of work education programs operating at fifty different sites

(2) To measure program outcomes by determining current employment status, past year employment stability, wage levels, and job satisfaction of those currently working

(3) To determine the bivariate and multivariate relationships contributing to the prediction of successful outcomes

(4) To compare the employment experiences of this sample with those of vocational education students who responded to a national longitudinal follow-up study, sponsored by the National Center for Educational Statistics

To accomplish these objectives, trained professional interviewers conducted personal interviews with those who had participated in the original benchmark study. The interviews were supervised and directed by DECIMA Research.

The Part I participants were enrolled in three kinds of work education programs:

(1) Specific occupation: Thirty of the fifty programs were specific occupation training programs. Most of these were cooperative education programs (a few were Job Corps programs) in which students were being trained in specific occupational areas and were placed in jobs directly related to their school training. These programs were headed by coordinators who also functioned as vocational education instructors or guidance counselors.

(2) Dropout prevention: Fourteen of the programs were designed to provide students with supplemental income to induce or permit them to remain in school. Examples of dropout prevention programs included Part H and Neighborhood Youth Corps programs.

(3) Career exploration: Six of the programs were designed to allow students to explore different vocational opportunities by observing workers and actually performing tasks for pay on a variety of jobs.

The outcomes for all types of participants and their nonparticipating cohorts are described in detail in Volume 2; in this chapter, the findings of the follow-up study are summarized, and those findings which relate significantly to findings emanating from the assessment of urban cooperative education programs are highlighted. It should be borne in mind that most of the programs included in the Part I sample were located in suburban areas and small towns; the Part II sample, on the other hand, was composed solely of cooperative education programs located in 26 of the nation's hundred largest cities.

Table 3-1 gives the number of completed follow-up interviews by education level and work education program classification. Because of the limited number of programs and students in post-secondary dropout prevention and secondary career exploration programs, these groups were not analyzed in depth.

TABLE 3-1

Completed Interviews by Educational Level and Program Type

	Post-secondary		Secondary	
Category	Participants	Nonparticipants	Participants	Nonparticipants
Specific occupation training programs	266	193	280	302
Dropout prevention programs	43	50	146	93
Career exploration programs			68	63

SUMMARY FINDINGS

Outcomes were measured in this study for all of those interviewed in conjunction with the follow-up study. For the total group, outcome measures included current employment status and employment stability over the 52-week period immediately preceding the interviews.[1] For those currently working, outcomes were measured in terms of weekly wages and expressed job satisfaction. Attitudes toward the program were also probed.

Current Employment Status

Table 3-2 summarizes the current employment status as of March-April 1975 for those interviewed as part of the follow-up study. Positive outcomes for this measure included "working or in the service" and "going to school." Judged solely on the basis of total group percentages, program participants fared less positively than their nonparticipating counterparts. Participants reported holding a current job slightly less often than nonparticipants. This difference reached a statistically significant level for those in post-secondary specific occupation programs. Nonparticipants across all program types reported a slightly higher percentage currently attending school than nonparticipants.

National unemployment rates for all ages was nearly 9 percent in April 1975. For the age group between twenty to 24 years, 16 percent of the male population was unemployed, while unemployment figures

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[1] Follow-up study interviewing covered a six-week period of time from March 1975 to April 1975. The 52-week employment period will shift slightly, depending upon when each interview was conducted. In general, the period ranges from March-April 1975 to March-April 1974.

TABLE 3-2

Current Employment Status
(Percentages)

Current Employment Status	Post-secondary Specific Occupations[a]		Secondary Specific Occupations[b]		Secondary Dropout Prevention	
	Participating	Nonparticipating	Participating	Nonparticipating	Participating	Nonparticipating
Working or in the service	77%	83%	71%	75%	64%	66%
Going to school	7	12	9	12	10	11
Not working, but looking for work	5	1	10	4	9	4
Not working and not looking	11	4	11	8	17	19

[a] Chi square significant at the 0.01 level.

[b] Chi square significant at the 0.10 level.

for the female population reached 12 percent. Compared to these national estimates of unemployment, participating and nonparticipating students compared favorably.[2] The highest unemployment rates in the follow-up study were 15 percent for females in the secondary dropout prevention programs and 14 percent for males in secondary specific occupation programs.

In accordance with the objectives of the follow-up study, current employment status was further examined for subgroup differences among participating and nonparticipating students. The following table indicates the current employment status of participating and nonparticipating students in specific occupational programs when divided by sex and ethnic group.

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[2] U.S. Department of Labor, Bureau of Labor Statistics, Employment and Earnings, Vol. 21 No. 10, April 1975, pages 21-22.

Sex of the student was related to percentage of time currently working for those at the secondary level but not at the post-secondary level. Students participating in secondary programs were more likely to be working if they were males than females. At the post-secondary level, no differences were found between males and females and the percentage holding a current job.

Racial differences favored whites at the secondary level and minorities at the post-secondary level among participating students. Whites reported working consistently more often than blacks participating in work education programs at the secondary level. The same was true for nonparticipating post-secondary comparison group members.

One of the more significant findings of the study ran contrary to the above. Among post-secondary specific occupation participants, blacks and other minorities consistently reported holding current jobs more often than whites.

For those participating in work education programs, correlation analysis revealed some consistent relationships with current employment status for both secondary and post-secondary respondents. Consider the following:

(1) The more hours worked and the higher the rate of pay at student school jobs, the more likely participating students were to be currently working.

TABLE 3-3

Current Employment Status Subgroup Comparisons[a]

Variable	Post-secondary Specific Occupation: Participating Working (1)	(2)	(3)	(4)	Aggregate %	Aggregate (Base)	Nonparticipating Working (1)	(2)	(3)	(4)	Aggregate %	Aggregate (Base)
Aggregate	77	7	5	11	100%	(266)	83	12	2	4	101%	(146)
Sex:												
Male	78	10	5	7	100	(121)	84	10	3	3	100	(68)
Female	77	4	5	15	101	(145)	82	13		5	100	(77)
Ethnic group:												
White	71	11	4	15	101	(150)	87	9		5	101	(106)
Black	84	3	7	7	101	(31)	36	55	9		100	(11)
Chicano	87	3	7	3	100	(30)	100				100	(5)
Other	92		4	4	100	(47)	91	5		5	101	(21)
	Secondary Specific Occupation											
Aggregate	71	9	10	11	101	(280)	75	12	4	8	99	(205)
Sex:												
Male	77	7	12	4	100	(147)	77	11	6	5	99	(122)
Female	64	11	7	19	101	(133)	70	15	2	13	100	(83)
Ethnic group:												
White	75	9	5	11	100	(212)	76	13	4	8	101	(184)
Black	54	6	28	12	100	(50)	54	18	18	9	99	(11)
Chicano	83	8	8		99	(12)	83			17	100	(6)
Other	75			25	100	(4)	100				100	(1)

[a] Key:

(1) = working.
(2) = in school.
(3) = not working, but looking for work.
(4) = not working and not looking for work.

(2) The more positive the student evaluation of specific occupation programs, the more often participants held current jobs at the time of the follow-up interview.

(3) The higher the anticipated employment stability while in school, the more likely the respondent was to be working.

Some of the significant relationships definitely indicated differences between secondary and post-secondary participant experiences. In secondary programs, as the number of minority students increased, the number currently working decreased. This finding is not entirely surprising due to the fact that blacks and other minorities in the population were not as frequently employed as whites of comparable age. However, at the post-secondary level, as the number of minority students increased, the number currently employed also increased. These data strongly suggested that at the post-secondary level, participation in work education programs served as an effective bridge to jobs for blacks and other minorities.

The data also suggested that the longer a school job was held, the more hours worked at the school job; and the higher the rate of pay for the work, the more likely a former participant was to be found working some 24 months after the program.

An examination of the data from the national longitudinal study for those participating in secondary programs (either specific occupation or dropout prevention) confirmed the trends identified above. Namely:

(1) Males reported working more frequently than females.

(2) Whites reported working more often than blacks and other minorities.

Employment Stability

Measured employment stability for the 52-week period immediately preceding the follow-up interview showed that the average number of weeks worked increased steadily from a low of 33 out of 52 for dropout prevention participants to a high of 38 out of 52 for post-secondary participants. Between participating and nonparticipating students, no significant differences were found for the total groups.

Again for those trained at the secondary level, sex was the discriminating factor between the average weeks employed. On the average, men were more consistently employed than women. This finding held true for both participating and nonparticipating secondary students. At the post-secondary level, however, no differences between men and women were found in measured employment stability. Blacks participating in post-secondary specific occupation programs worked more weeks out the year than blacks in the nonparticipating comparison groups. This finding further confirmed the positive effects of post-secondary specific occupation programs on the economic outcomes of blacks and other minorities.

Other significant relationships with employment stability for participating students included:

(1) The average number of weeks worked during a 52-week period increased in general for males, nonminority students (except in the case of post-secondary specific occupation participants), and older students.

(2) The employment stability of those who were paid higher wages, worked longer hours, and earned more during the

TABLE 3-4

Employment Stability -- Average Number of Weeks Worked in the Past Fifty-two Weeks

	Post-secondary Specific Occupation						Secondary											
							Specific Occupation						Dropout Prevention					
	Participating Working			Nonparticipating Working			Participating Working			Nonparticipating Working			Participating Working			Nonparticipating Working		
Variable	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
Aggregate	38	15	44	37	16	44	35	16	43	37	14	43	33	17	41	33	16	38
Sex:																		
Male	39	14	44	37	15	44	37	15	44	39	13	43	37	14	43	37	13	42
Female	37	16	44	37	16	44	33	18	42	[illegible]	16	43	27	19	25	26	18	29
Ethnic group:																		
White	36	16	44	39	14	44	37	15	43	38	14	43	34	17	43	32	16	37
Black	42[b]	13	46	18[b]	21	4	28	19	35	33	20	43	27	15	25	33	13	33
Chicano	40	13	45	39	16	45	39	13	44	37	19	44	47		47	47		47
Other	40	12	45	40	15	45	37	13	40	20		20	9	[illegible]	5			

[a] Key:

(1) = mean.
(2) = standard deviation.
(3) = median.

[b] Student t significant at the 0.01 level.

school year of the benchmark study was above that of their co-workers who worked less and earned less during the same period.

(3) The more relevant the training program to the school job, the more likely the individual enjoyed a high level of employment stability as measured in the follow-up study.

(4) Among secondary specific occupation participants, as the ratio of students to coordinator increased, participant employment stability increased. The presence of an advisory committee also increased the employment stability of those interviewed.

Where comparable data were available, no differences were observed between the national longitudinal sample and the Part II follow-up sample for the key findings reported above.

Current Weekly Earnings

Successful outcomes measured in current earnings per week for those working are presented in Table 3-5. This outcome measure was derived from reported hourly rates of pay and the average number of hours worked per week.

At the secondary level, program participation appeared to have little effect on the average weekly earnings of those interviewed. On the other hand, at the post-secondary level, participating respondents earned substantially more than their nonparticipating counterparts. A sizable portion of the advantage enjoyed by participating students in post-secondary specific occupation programs may

TABLE 3-5

Current Weekly Earnings

	Post-secondary Specific Occupation						Secondary											
							Specific Occupation						Dropout Prevention					
	Participating Working			Nonparticipating Working			Participating Working			Nonparticipating Working			Participating Working			Nonparticipating Working		
Variable	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
Aggregate	160	109	132	121	69	117	113	66	113	115	83	104	112	53	113	111	98	92
Sex:																		
Male	208[b]	131	170	136[b]	72	139	132[b]	75	129	132	91	121	129	54	133	125	117	97
Female	120	62	116	107	64	100	90[b]	42	92	91[b]	62	84	88	42	85	85	38	85
Ethnic group:																		
White	176[b]	125	136	127[b]	71	122	116	68	115	117	86	106	113	50	115	112	103	89
Black	172	97	141	92	76	76	108	60	107	96	57	88	87	65	76			
Chicano	157	107	146	126	79	126	88	44	100	96	27	92	226		226	126		126
Other	122	66	113	101	46	107	26		26	26		26						

[a] Key:
(1) = mean.
(2) = standard deviation.
(3) = median.

[b] Student t significant at the 0.01 level.

be attributed to those trained in manufacturing, marketing and distribution, and health care areas.

Most of the significant relationships of current weekly earnings appeared within subgroup comparisons. Generally for all programs men earned more per week on the average than women, and whites earned more than blacks.

In post-secondary specific occupation training programs, whites and blacks earned more per week than their comparison group members.

Since men earned more than women consistently across all programs, this gave rise to the question as to whether the difference in average weekly earnings could be attributed to differences in occupation. Both participating and nonparticipating students were stratified by program type, general occupation classification (both current job and school job), and finally by sex as shown in Table 3-6.

The general finding revealed in the table indicates that men start with a relative earnings advantage while still in their training programs, regardless of the general areas of occupational experience. This relative advantage continues and in some cases increases following training.

Weekly earnings comparisons were also made between participating and nonparticipating students for the first jobs they held after training. Table 3-7 presents some of these comparisons. The results show that post-secondary participating students again enjoyed a relative advantage over their nonparticipating counterparts in terms of weekly earnings. Moreover, secondary students trained in specific occupation programs enjoyed a slight advantage over nonparticipating

TABLE 3-6

Weekly Earnings of Men and Women Trained in or Working in Similar Occupations

	Post-secondary Specific Occupation				Secondary							
					Specific Occupation				Dropout Prevention			
	Participating		Nonparticipating		Participating		Nonparticipating		Participating		Nonparticipating	
Variable	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Professional:												
Current occupation	$228	$145	$156	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)
(School occupation)	($60)	($36)	(a)	(a)	(a)	($26)	(a)	(a)	(a)	($31)	(a)	(a)
Clerical:												
Current occupation	140	111	106	114	138	110	81	95	97	106	(a)	(a)
(School occupation)	(53)	(30)	(76)	(47)	(53)	(34)	(43)	(33)	(48)	(28)	(a)	(a)
Sales and management:												
Current occupation	213	86	180	(a)	115	71	88	(a)	(a)	(a)	(a)	(a)
(School occupation)	(83)	(34)	(a)	(46)	(57)	(31)	(44)	(a)	(a)	(a)	(a)	(a)
Blue collar:												
Current occupation	178	155	131	96	148	69	150	86	149	(a)	147	(a)
(School occupation)	(83)	(a)	(60)	(a)	(50)	(a)	(42)	(a)	(54)	(a)	(38)	(a)
Service:												
Current occupation	242	101	(a)	76	66	67	76	96	(a)	63	(a)	(a)
(School occupation)	(76)	(a)	(65)	(58)	(42)	(24)	(43)	(28)	(27)	(30)	(51)	(26)

[a] Cells with less than five observations were suppressed.

TABLE 3-7

Weekly Earnings -- First Job Held after School

	Post-secondary Specific Occupation						Secondary											
							Specific Occupation						Dropout Prevention					
	Participating Working			Nonparticipating Working			Participating Working			Nonparticipating Working			Participating Working			Nonparticipating Working		
Variable	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
Aggregate	110	73	98	86	47	79	83	49	83	83	41	80	79	48	75	89	44	82
Sex:																		
Male	137[b]	83	123	99	62	85	105	50	100	96	41	93	88	45	84	105	45	93
Female	91	59	84	79	36	77	63	32	64	57	29	60	71	51	67	61	24	66
Ethnic group:																		
White	111[b]	77	95	83[b]	46	78	86	49	79	83	43	81	79	48	75	89	45	82
Black	140	83	132	113	48	100	105	53	110	63	25	67	83	57	76	76		76
Chicano	114	60	109				92	29	88	76		76						
Other	83	55	76	92	52	84							76		76			

[a]Key:

(1) = mean.
(2) = standard deviation.
(3) = median.

[b]Student t significant at the 0.01 level.

students on their first post-school jobs. Conversely, secondary students participating in dropout prevention programs earned $10 less per week on the average than their nonparticipating counterparts. While the data are insufficient to provide direct evidence, they do suggest that in the long run participants in secondary dropout prevention programs may have benefited from their work education participation by closing the earnings gap with their nonparticipating counterparts. On the other hand, those in secondary specific occupational training programs were unable to maintain their original relative advantage over nonparticipants.

In all comparisons involving weekly earnings, the greatest impact of participation definitely appeared to be focused on postsecondary programs. Whites and blacks and men and women who participated in such programs out-earned comparison cohorts in all cases.

The national longitudinal sample of participating and nonparticipating students revealed a somewhat lower level of earnings. However, wages increased with inflationary pressure over a twelve-month period separating the two points in time of measurement, thus providing those in the Part II follow-up study with a slight earnings advantage due solely to inflation.

The trends identified earlier in the Part II follow-up study were substantiated for those responding in the national longitudinal follow-up period namely:

(1) Males earned more than females.

(2) Whites earned more than blacks.

Differences in earning power favored participants in specific occupation training programs over comparison group members. On the other hand, participants in dropout prevention programs were at a slight earnings disadvantage when compared to nonparticipants.

Current Job Satisfaction

To measure satisfaction with jobs currently held, those interviewed were asked a series of questions focusing on satisfaction with pay and fringe benefits, working conditions, challenge and opportunities. Measures of job satisfaction with current jobs suggest the following:

(1) Participating students in post-secondary specific occupation programs expressed more positive attitudes toward their jobs than their nonparticipating counterparts.

(2) The least satisfied group, on the basis of the average of their job satisfaction, was those who participated in secondary dropout prevention programs.

(3) In terms of overall job satisfaction, participants in secondary specific occupation programs occupied a middle position between the other two groups.

Table 3-8 illustrates the above findings. There were few significant differences between subgroups either at the secondary or post-secondary level. In general, men and women expressed about the same levels of satisfaction with their current jobs across educational levels and types of programs. Whites and blacks did not differ significantly in their expressed levels of job satisfaction.

Expressed job satisfaction between national longitudinal and Part II study participants showed no measureable differences and, in general, trends were parallel for both studies.

TABLE 3-8

Current Job Satisfaction
(Aggregate measure)

			Post-secondary				Secondary							
			Specific Occupation				Specific Occupation				Dropout Prevention			
	Aggregate		Participating Working		Nonparticipating Working		Participating Working		Nonparticipating Working		Participating Working		Nonparticipating Working	
Variable	%	(Base)	%	(Base)	%	(Base)	%	(Base)	%	(Base)	%	(Base)	%	(Base)
Pay:														
Very satisfied	21%		23%		28%		20%		17%		17%		21%	
Satisfied	55		45		56		54		60		55		44	
Not satisfied	24		28		22		26		23		29		35	
	100	(1,015)	100	(202)	101	(120)	100	(188)	100	(144)	101	(84)	100	(34)
Working conditions:														
Very satisfied	29		30[a]		33[a]		28		31		26		24	
Satisfied	58		55		62		57		56		62		68	
Not satisfied	13		15		5		15		14		12		9	
	100	(1,016)	100	(202)	100	(120)	100	(189)	101	(144)	100	(84)	101	(34)
Challenge and opportunity:														
Very satisfied	25		27		30		27		25		18		29	
Satisfied	68		65		64		67		70		75		61	
Not satisfied	7		8		7		5		6		7		10	
	100	(999)	100	(199)	101	(118)	99	(187)	101	(142)	100	(84)	100	(31)
Completion, overall:														
Very satisfied	18		22		20		20		17		14		16	
Satisfied	73		67		75		65		75		74		71	
Not satisfied	9		11		5		11		8		12		13	
	100	(998)	100	(199)	100	(118)	100	(186)	100	(142)	100	(84)	100	(31)

---

[a] Chi square significant at the 0.05 level.

THE TRAINING PROGRAM: CARRYOVER AND ATTITUDES

Respondents in the follow-up study were asked to reassess the value of the training they received while in school. Also the amount of job carryover was measured by determining how many were at the same or similar jobs to the jobs held while in school. Remembering that there was a 24-month period between the benchmark and the follow-up study, the following trends emerged:

(1) Positive carryover of training to current jobs was highest for participants in post-secondary specific occupation programs. Four in ten were working at the same jobs they held during the benchmark study; three in ten were in the same field as their training jobs; and three in ten were working in unrelated fields.

(2) Participants in secondary specific occupation programs showed the next highest level of consistency between training and current jobs. Specifically, three in ten in this group were working at the same jobs they held while in training; two in ten were working in the same general fields; while five in ten were working in unrelated jobs.

(3) As expected, the lowest training to current job carryover was measured among participants in secondary dropout prevention programs. Specifically, two in ten were working at the same jobs they held while in the program; two in ten were working in the same fields; while six in ten were working at unrelated jobs.

(4) Over all, attitudes expressed toward training programs remained positive. Positive evaluations were voiced more frequently by participants in post-secondary specific occupation programs than by those in other groups. Secondary level participants were somewhat less enthusiastic in their retrospective evaluation of their training programs.

(5) When participants were asked to assess the job relevance of the training they received while in school, the strongest positive comments came again from those in post-secondary specific occupation programs. Participants in specific occupation and dropout prevention programs at the secondary level were significantly less likely to give their programs high marks.

(6) The area where training programs received their highest negative-marks was in the assessment of job preparation. Following a now familiar pattern, participants in post-secondary specific occupation programs were more likely to judge their preparation for jobs favorably than participants in either specific occupation or dropout prevention secondary level programs.

An interesting sidelight to the retrospective evaluations given to training programs was the finding that among post-secondary participants, those less positive toward their training in retrospect were also the ones who tended to be earning and working more at the time of the follow-up interviews. Perhaps this finding suggests a motivational factor associated with the retrospective evaluation of program training. Over all, however, a strong majority of those interviewed continued to view their programs in a favorable light.

URBAN CASE STUDY FOLLOW-UP STUDY RELATIONSHIPS

The findings emanating from the assessment of urban-cooperative education programs which appear to be related to follow-up study findings are summarized below.

Secondary Level

The attitudes of Part I secondary participants toward work and school, when they were first interviewed in 1973, were far more positive than those of nonparticipants; the same was true of urban cooperative participants interviewed in 1975. Two years later, however, there was very little difference between the attitudes expressed by the reinterviewed Part I participants and their nonparticipant cohorts. Furthermore, the outcomes of Part I secondary participants, in terms of current employment status, past year employment stability, wage levels, and job satisfaction, were about the same as those for nonparticipants. The question arises, therefore, as to whether the same outcomes may be in store for Part II participants and nonparticipants.

Before attempting to answer this question, two factors should be taken into consideration: (1) the outcomes for secondary, Part I participants in "specific occupation," or cooperative, programs were better than those for participants in dropout prevention programs; and (2) the first post-school jobs obtained by specific occupation participants paid higher wages than those earned by nonparticipants.

What all of this may mean is that participation in cooperative education programs gives students a head start, but that eventually their fellow vocational students catch up to them. But it may mean something even more important. It may be that the nature of cooperative education is changing from the traditional, single occupation emphasis of the past to an emphasis on occupational cluster and diversified occupation programs. These latter make it easier for students to make shifts from one specific occupation to another without having to shift teachers and school schedules. Thus the same outcomes as those for single occupation programs cannot be expected for the new breed of program. High school students entering cooperative education programs believe that they are enrolling in the aristocrat of all vocational education offerings. If after two years in the labor market, it turns out that their outcomes are no better than those for noncooperative education students, their attitudes toward their former programs would naturally take a dip for the worse.

What this may mean for policy makers is that traditional assumptions regarding cooperative education at the high school level should be reexamined. Do the same administrative and program techniques, which have been successful in the past with regard to single occupation programs, apply to diversified and general occupation programs. This is the question to which policy makers and educators at all levels should address themselves.

Post-secondary

Two findings emanating from the follow-up study relate closely to those of the urban case study assessment, in that they show post-school trends which appear to have had their beginnings in school. The first is that post-secondary participants were earning higher wages and had better attitudes toward their current jobs and past school experience than post-secondary nonparticipants. This finding paralleled one of the more important findings of the urban cooperative education assessment. Post-secondary urban cooperative education participants, while in school, earned higher wages than nonparticipants and had more positive attitudes toward their school jobs and programs than either post-secondary nonparticipants or secondary participants.

The second is that Part I minority post-secondary participants were earning higher wages than their nonparticipant counterparts, and wages equal to those of nonminority participants. The urban case study assessment not only shows that minority, post-secondary participants earned higher wages than nonparticipants, but also that their wages were higher than nonminority, post-secondary participants.

It seems, therefore, that the eighty work education programs studied were most successful for post-secondary students, both minority and nonminority, and that the successful outcomes began while students were in school and continued after they had entered the labor market.

The question which arises, therefore, is whether more emphasis should be placed on the funding of post-secondary programs than on cooperative education programs at the secondary level. Obviously, such a decision should not be made on the basis of this study alone, but the question is pertinent and points the way for future policy-level consideration.

Outcomes by Sex

Both the follow-up study and the urban cooperative education assessment pointed out clearly that the outcomes for women cooperative education participants were much lower than those for men. The range of occupational offerings for women was narrower than that of men, and the wages paid women, both while they were in school and after they had entered the labor market, were significantly lower than the wages paid men -- even when both had been trained in the same occupational areas. The significance of these findings for policy makers is obvious.

Predicting Success

The attempt to abstract a statistical "model" of a successful work education program proved to be as unsuccessful with regard to the follow-up study as it was with the urban cooperative education assessment. Although several environmental, institutional, and administrative factors correlated with success criteria, very few were significant and anomalies occurred which were difficult to explain. This merely proved the obvious; that is, assessments of programs administered by human beings for other human beings often defy statistical analysis. Too many intangibles were involved, including (and perhaps most important) the talents, energies, and commitment of individual coordinators. In chapter 4, which is primarily a nonstatistical analysis of program variables, an attempt is made to describe successful and nonsuccessful administrative and program techniques, but even in a nonstatistical analysis, account must be taken of the personalities and particular talents of individuals who -- whether they be members of advisory committees, counselors, teachers, or coordinators -- contribute to program "success."

4

ADMINISTRATIVE AND PROGRAM OVERVIEW

Although the urban case study programs were located in cities of varying sizes and in every area of the country, the techniques employed to administer the programs and the program contents were remarkably similar within the three categories identified: single occupation, general occupation, and diversified program. A case study of each program is contained in Volume 3; in this chapter, the attempt is made to identify patterns of administrative and program techniques, and to discuss the relative strengths and weaknesses of these patterns as they apply to the sample as a whole. The material is based primarily on data obtained through interviews with coordinators, but also includes on-site observations and impressions of field researchers and data obtained by means of student, employer, and union representative interviews.

At the outset of the study, the following general hypothesis, based partially on Part I findings and partially on the opinions of experts in the field of vocational education, was posed for testing. The characteristics of successful work education programs are:

(1) Sound administrative structures, within which programs operate, at the state and LEA levels

(2) The use of trained coordinators who are intimately familiar with the occupational areas to which they are assigned

(3) Aggressive promotion by school administrators at the state and local levels

(4) The use of active and involved advisory committees

(5) Imaginative public relations work among employers, students, unions, and the general public

(6) Maximum integration of classroom work with on-the-job work experience or training

(7) Assurance of the best possible matches of students with jobs

(8) Adequate training and supervision on the job

(9) High-quality work stations

(10) Provision of adequate counseling and supportive services

(11) Comprehensive placement and follow-up services for all students

(12) Maintaining a flexible policy regarding student pay for work performed (in some instances, no pay or student pay rates less than those for regular workers, in exchange for high-quality on-the-job training; in others, student pay rates the same as those for regular entry-level workers -- without sacrificing high-quality on-the-job training)

The first eleven "characteristics" were compressed into six "administrative" and four "program" factors which are discussed in sequence in this chapter; the twelfth is discussed separately. Thus the chapter is organized into the following three sections: (1) pay policy, (2) administrative overview, and (3) program overview.

PAY POLICY

Only thirty of the four hundred programs nominated for inclusion in the case study sample were non-pay programs, or programs in which the students were not paid for the work they performed outside the classroom. Two of these programs were selected for the urban case study -- one a secondary health occupations program, the other, an experimental post-secondary "legal education" program. With respect to the health occupations program (students enrolled in health occupations programs generally are not paid), the "on-the-job" training portion of the program was more like an on-site "class" than an actual work situation, although at times the students helped hospital technicians and professionals perform their duties. Although the quality of the curriculum was high, the program suffered somewhat from the absence of a health occupations program at the school. Because of this students who were majoring in other areas (both male and female) were recruited for the program. As a result the placement rate was low, indicating either that the students enrolled were not interested in pursuing careers in the health occupations field, or that the hospital was not interested in hiring (or in a position to hire) the students trained in its facilities.

The purpose of the legal education program was not necessarily to train students for careers in law but to make them more aware of the importance of individual legal rights and procedures in modern society. The on-the-job training portion of the project was extremely loose. For example, it could consist of student "projects" (dealing with the rights of prisoners, women, children, and so forth) or observing trials in progress, as well as performing actual work in law offices or legal agencies.

Although both of these programs were interesting, they constituted too small a subsample to shed any significant light on the question of flexible pay policy. It is interesting to note, however, that most of the coordinators interviewed had never heard of non-pay cooperative education programs, and expressed surprise that such programs existed. Several secondary school coordinators expressed doubt that non-pay programs could succeed at their schools. They indicated that a prerequisite for successful non-pay programs would be a large and well-motivated number of students who had definitely decided on the careers they wanted to pursue and who were indifferent to being paid for work. Such students, they believed, would be more likely to be found at the post-secondary level, or in relatively affluent school districts.

Table 4-1 shows participating employer responses to the question, "Are cooperative education students paid the same wages as regular employees?" Three out of four employers responded that students were paid the same wages as regular employees, fewer than two out of ten said that students were paid wages lower than regular employees. Most who responded that students wages were lower than those of regular employees were participating in single occupation programs, geared toward highly skilled, union-controlled crafts.

TABLE 4-1

Participating Employer Responses to Question:
"Are Cooperative Education Students Paid
the Same Wages as Regular Employees?"

Type of Response	Number of Employers	Percent
Total	86	100%
The same	62	72
Lower	15	17
Don't know	6	7
No response	3	4

Although the educational content of such programs, because of the skilled nature of the occupational areas involved, was bound to be of a higher difficulty level (on the average) than that of general occupation or diversified programs, it does not follow that if student wages were reduced in less skilled areas, the quality of the educational content would be raised. In fact, the reduction of student wages (in return for high-quality on-the-job training) would be apt to cause more problems than it would solve, especially in areas with high unemployment rates. It was pointed out in chapter 2 that although it was not difficult to develop part-time work stations for students in cities with above average unemployment rates, the post-school placement rates in such areas were much lower than in cities with average or below average unemployment.

If cooperative students were paid wages lower than regular employees in high unemployment areas, the schools might become susceptible to the charge that students were taking jobs away from unemployed workers. When, for example, union officials were queried as to whether they would respond favorably if they were approached by schools to participate in cooperative programs, 77 percent responded either "possibly" or "no." The major reason for the cautious answers and outright refusals was "adverse economic conditions." In other words, LEAs and schools must bear in mind potential community reactions to policies regarding work education programs, especially in areas of high unemployment. The safest policy, with respect to wages, is to pay students the same wages as those paid regular workers.

Participating employers were also asked whether substituting increased on-the-job training for the payment of wages to students would be important in the expansion of cooperative education programs. Forty-four (or 63 percent) of the seventy employers who responded to this question said that it would be an unimportant adjustment. Only eleven (or 16 percent) said that it would be important; the remaining fifteen (21 percent) responded "don't know." Thus to most participating employers, the payment of wages to students was not a barrier to expansion; nor did they believe that the on-the-job training portion of the program would improve if students were not paid.

ADMINISTRATIVE OVERVIEW

Although it has been noted several times in this report, it bears repeating that the success of most cooperative education programs depends almost entirely on the skills, energies, and commitment of individual coordinators. Other administrative factors -- such as the structures within which cooperative programs operate, promotion and public relations, the role of advisory committees, and so on -- must be reviewed from the perspective of their effect on the ability of coordinators to carry out their multiple responsibilities. The sections which follow describe the strengths and weaknesses of the administrative patterns identified from the point of view of their efficacy in aiding coordinators.

Administrative Structure

Guidelines for the administration of cooperative education programs begin in a "suggested" form at the national level, are translated into a "mandatory" form at the state level, and are "interpreted" at the LEA and community college levels. With respect to the secondary programs included in the urban case study sample, the levels of responsibility and channels through which requests for funds must flow were well delineated, but the actual administration of programs (including monitoring and evaluation) was for the most part left to individual schools, which means, in effect, the coordinators. There were departures from this pattern, notably in New York City, but also to a lesser extent in Syracuse, New York, where the LEAs played a major role in the administration of cooperative programs. In most cities, however, once LEA and state officials were satisfied that mandatory guidelines were being met and projects were funded, program administration was for the most part left to individual coordinators. Coordinators, of course, reported to their school principals but also maintained close relationships with appropriate LEA and, at times state officials.

This does not mean that LEAs played an insignificant role in the administration of cooperative programs. Their responsibilities with respect to promotion and public relations, the maintenance of advisory committees, and job development will be described in the sections which follow. What it does mean is that once programs were approved, coordinators were generally given a wide degree of freedom and flexibility in conducting their programs.

At the community college level, the administrative structure was even less formal. Programs were initiated (that is to say, proposals were written) by teachers, coordinators, or department heads (including, where they existed, departments of cooperative education). Usually the proposals went directly to the state officials where they were either approved or disapproved. The initiator of the program usually became the coordinator of the program and was responsible for its administration. As at the secondary level, once a program was approved, maximum flexibility was given to the school (meaning "coordinator") for its administration. There were exceptions. In the state of Washington, for example, all cooperative education programs had to be approved by a statewide committee on vocational education. This caused some problems, since the state committee seemed to favor (in some occupational areas) post-secondary technical schools over the newer community colleges.

Single occupation programs, whether they occurred at the secondary or post-secondary level, were usually autonomous; that is, virtually exempt from LEA supervision. These programs, which were generally in existence prior to the 1968 amendments to the Vocational Education Act of 1963, and which were originally initiated by employers or unions, were considered "special cases." Where state or LEA guidelines might require changes not approved by the trade, the administration tended to give way. For example, in Ohio, state regulations required that secondary school vocational education graduates in trades and industries programs complete 540 hours of laboratory (shop) and 270 related subject hours each year. Because of the amount of time spent on the job by single occupation enrollees, they could not possibly meet these hourly requirements. A compromise was therefore worked out with the State Office of Education. No grade was given (in single occupation programs) for cooperative work experience as such. On the other hand, student work on the job was included as part of the 540 required shop hours, and students received "shop" grades based on this work. Their specific vocational classes were classified as "related study" and thereby satisfied the 270-hour requirement in that area. In New York City, single occupation programs were exempted from the requirement that LEA central office personnel perform all job development and referral of students to jobs; instead, these functions were carried out by the school coordinator.

LEA and state education agency guidelines were most strictly applied to the new breed of general occupation and diversified programs. But even in these areas, program coordinators were given a vast amount of flexibility.

The one exception encountered was the New York City system, which vested major responsibilities for the administration of cooperative education programs in LEA personnel. For example, in New York all promotion and public relations, job development, and referral of students to jobs were performed by LEA central office staff. In addition, central office personnel visited work sites and, in general, maintained relations with participating employers. The major responsibilities left for school coordinators were student recruitment, in-school instruction, and guidance and counseling. With respect to the one program visited in Syracuse, New York, the same system prevailed. The system worked very well in New York City -- a large city with an immense cooperative education enrollment -- but it is doubtful that it could be adapted with ease to other cities included in the sample. One advantage of the New York system was that a centrally controlled group of coordinators made all employer contacts, thus preventing employers from being inundated by calls from a multitude of school coordinators. Yet in other large cities (Houston, for example), where lists of employers who had expressed interests in cooperative programs were distributed to all of the city's coordinators, there were few complaints from either employers or coordinators of excess harassment (expressed by employers) or competition (among coordinators) for available work stations.

The Coordinator

The internal organization of the typical program included in the urban case study sample could not be simpler. It consisted of coordinators and their students. Virtually all responsibilities relating to cooperative programs were turned over to coordinators, and once students became involved in cooperative programs, their ties with other school departments became increasingly weak. Most of the programs studied tended to be self-sustaining, even to the point that they were housed apart from other school programs.

Responsibilities of Coordinators

The responsibilities of the typical coordinator included:

(1) In-school promotion and recruitment
(2) Selection of students
(3) Preparation of curricula
(4) Teaching of cooperative classes
(5) Job development and employer relations
(6) Referral of students to jobs
(7) Inspection of work sites and observation of performance of students on the job
(8) Counseling of students
(9) Evaluation and grading of students
(10) Placement (for high school students only)
(11) Follow-up (for high school students only and only in certain LEAs)
(12) Self-evaluation

There were departures from this pattern. As noted in the previous section, in New York City, all job development, referral of high school students to jobs, employer relations, and work-site monitoring were performed by LEA central office officials. In four other diversified programs at the post-secondary level, the coordinators were primarily administrators.

The teaching and site visits were performed by part-time instructors engaged by the coordinators, and the students were responsible for finding their own jobs, thus rendering job development unnecessary. The coordinators of these programs were responsible for recruiting and admitting students and for supervising the activities of the part-time instructors. The coordination of classwork and on-the-job training was accomplished in one of two ways: (1) a poll would be taken to determine the jobs held by students, and various classes would be established in which the instruction would be related to groups of occupations, and (2) coordinators would admit only students who held jobs which were related to the curricula already established. The enrollment in these atypical programs was large (in one of the four programs, the enrollment was more than eight hundred).

Community college coordinators had an additional responsibility which they considered vital to the survival of cooperative education in post-secondary academic settings; that is, coordination with department heads and departmental instructors. It was the responsibility of these coordinators to satisfy instructors and department heads that the jobs in which students were placed were related to their school majors, and that the cooperative seminars conducted by coordinators included inputs from school departments.

Background of Coordinators

All thirty coordinators were drawn from the ranks of certified vocational education teachers, and all had experience in business or in industry, or both, prior to becoming teachers. Nevertheless, the backgrounds of coordinators, by type of program, were quite different. For example, all five coordinators of single occupation programs, not only had extensive business or industrial experience, but also were well known and respected by important business and industry representatives (both management and labor). The coordinators of diversified programs, although they too had business and industrial experience, were selected more for their ability to approach "unknown" employers and interest them in program participation. General occupation coordinators fell somewhere in between. Although most had experience in the general occupational area to which they were assigned, a few did not, and the "seal of approval" of business and industry representatives was not so much a necessity for general occupation coordinators as it was for their single occupation counterparts.

There was one major requisite for all types of coordinators; that is, the ability to see several sides to a problem -- the student's the employer's and the school's. Coordinator bias in any one of these directions could be harmful to programs. This is the major reason why the counseling of students became a coordinator responsibility. The fear of loss of work stations, or employer complaints to either school principals or other LEA officials, was a real concern among some coordinators. Without work stations, cooperative programs cannot exist. On the other hand, the purpose of work study is education; thus the problems of students (personal and educational) must be taken into consideration. With respect to programs which enrolled only highly motivated and top-level students, the problem was relatively minor, but the coordinators of programs which were aimed at "disadvantaged," "potential dropouts," or below-average students (both in terms of grades and motivation), were constantly following an extremely narrow line.

Training of Coordinators

Fourteen of the thirty coordinators interviewed said that they had received special pre-service training to prepare them for their responsibilities as coordinators; twenty responded that they had received in-service training. Eight of the sixteen coordinators who had not received special pre-service training responded "yes" to the question "Should special training be provided for coordinators?" The question that arose was of course what kind of training should be provided, and was the training now provided adequate?

Although coordinators were not asked these questions formally, they were more than willing to give their views on the subject of training. Most said that there was only one way to learn the job of coordinator and that was "on the job." Others said that training in psychology or interpersonal relationships would be of help, and a few suggested training in "salesmanship." However, it appeared that the vast majority of coordinators interviewed did not consider special training a major priority.

What appeared to be more important was the selection of coordinators, or the identification of individuals with the personality traits necessary for fulfilling the major responsibilities of a coordinator. Coordinators must, first of all, be committed to the concept of cooperative education, and must enjoy the public relations work involved in making cooperative programs successful. For example, they must enjoy meeting employers, public speaking, and arbitrating problems that may arise between students and employers. Coordinators of single occupation programs, and to a lesser extent, those of general occupation programs, should have considerable expertise in their assigned occupational areas. On the other hand, the type of occupational competence possessed by coordinators of diversified programs would not be particularly important. But whether coordinators lack or possess a particular type of occupational competence, they must be effective at, and enjoy, the promotional and arbitrational work demanded of coordinators.

Thus if appropriate persons are selected as coordinators, the training required need not be extensive. If on the other hand individuals are selected as coordinators who are not suited to the job, it is doubtful that any amount of training would help them overcome their difficulties.

Ratio of Students to Coordinator

Table 4-2 shows the various ratios of students to coordinators that existed for the thirty urban cooperative education programs. The average was twenty students to one coordinator (20:1), but this figure is somewhat deceptive. The policy in several LEAs was that no more than twenty students could be enrolled in a cooperative class; however, one coordinator was often assigned to more than one class. Thus if a coordinator was assigned two classes of twenty students each, the actual ratio of students to coordinators would be forty

TABLE 4-2

Ratio of Students to Coordinator

Ratio	Number of Programs	Percent (Rounded)
15:1 or less	4	13
16:1	8	27
21:1 to 30:1	5	17
31:1 or greater	8	27
Unable to determine	5	17

to one (40:1). If this were taken into account, the average student-coordinator ratio would be slightly higher. Most of the programs with ratios of 30:1 or greater occurred at the post-secondary level, where coordinators were assisted by part-time teachers.

It is a generally held assumption that the lower the ratio of students to coordinators, the more effective cooperative programs will be. Although this assumption appears to be self-evident, it is equally true that by increasing student-coordinator ratios, more students have been enrolled in cooperative education programs. With respect to general occupation and diversified programs, it did not appear that the increased student-coordinator ratios resulted in quality deterioration.

Indeed, it was evident that the passage of the 1968 amendments had spurred not only attempts to increase the number of cooperative education programs available to vocational education students, but also to extend such programs to students who in the past would have been judged "unqualified" for admittance to cooperative programs. This accounted for the trend toward diversified programs in many school districts. The question that faced school administrators at all levels was whether the benefits that accrued to students enrolled in programs with high student-coordinator ratios outweighed whatever deterioration (if any) occurred in the programs. Doubtless the major constraint to the expansion of cooperative education programs was lack of funds for the hiring of additional coordinators. With this in mind, officials gradually raised student-coordinator ratios. The evidence seemed to indicate that the decision was justified; that is, that student benefits outweighed program deterioration.

It should be kept in mind that where supplies of "qualified" students were ample, coordinators tended to "select the best." Either additional programs or increased student-coordinator ratios were the surest way of eventually reaching the "nonqualified," although in several instances, programs were designed to screen out "the best" in favor of students classified as disadvantaged.

Finally, the number of students that a single coordinator could serve without causing quality deterioration depended upon: (1) the amount of time coordinators were allotted to fulfill their cooperative responsibilities, and (2) the number of cooperative responsibilities they were expected to perform without help from other school personnel. Additional research is needed to determine the number of students one coordinator, working full time and performing all of the twelve tasks listed at the beginning of this section, can supervise on a daily basis. Although it appeared that full-time coordinators had little difficulty in administering programs with average enrollments of forty students, no attempt was made in this study to evaluate the quality of coordination. Coordinators whose time was divided between cooperative programs and other responsibilities were of course less able to perform all twelve tasks for enrollments as high as forty. In the latter case, the coordinator responsibility that suffered most was visitation of work sites and observations of students on the job (discussed in greater detail in the following major section, "program overview," subsection "work stations").

Advisory Committees

There was ample evidence to support the contention that active and involved advisory committees, both citywide and for specific programs, enhanced the quality of cooperative education programs. On the other hand, several programs were operating successfully without specific advisory committees, or from significant contributions from citywide committees. The value of a good advisory committee was that it either performed functions that coordinators otherwise would have had to perform, or that it helped coordinators in performing key functions. For example, in Houston, citywide advisory committees drafted lists of employers, by occupational area, that had expressed an interest in participating in secondary school cooperative education programs. These lists were distributed to coordinators for job development purposes. The New York City Cooperative Education Commission met six times a year to deal with program promotion, the development of new work stations, and problems that arose in the area of citywide employer and labor relations. LEA staff considered the commission an extremely useful entity, not only in the areas of public relations and job development, but also in helping to solve the inevitable labor-management grievances, related to cooperative education, that often arose in a large, highly unionized city.

These were examples of effective citywide committees. Several program committees serving single occupation programs were also extremely useful. A committee for a Boston fashion merchandising program, composed of 27 representatives of department stores in Washington, D.C., New York City, and Boston, not only gave the program status in the field, but also assured the development of adequate work stations. Several advisory committees to single occupation programs advised on changes which were occurring in industry, and fed back to the coordinators evaluations of student performance on the job. One secondary advisory committee to a diversified program was assigned the entire task of job development.

Citywide advisory committees existed for all of the secondary programs included in the sample. According to coordinators, fifteen were in some way useful; the remainder were of little use (according to individual coordinators). Citywide committees that provided help in job development were more often considered useful than those whose major function was to advise LEAs on curricula, or engage in overall promotional or public relations activities.

Eighteen of the thirty programs had specific, or "program," advisory committees. Table 4-3 shows the major activities these

TABLE 4-3

Functions Performed by Program Advisory Committees

Function	Yes	No	No Response
Curriculum development	8	10	
Job development	12	5	1
Employer promotion	12	4	2
Union promotion	2	10	6
Program evaluation	10	7	1

committees performed. The question arose as to what constituted an active and involved advisory committee. The consensus was that such a committee, composed of well-known and high-level business or industry representatives, would meet often and perform at least two major functions: (1) employer relations and job development, and (2) curriculum development and revision. Members of such an ideal committee would visit classrooms, provide advice on how training could be improved, talk with students individually, and make presentations to classes as a whole. Only a handful of the eighteen program advisory committees met this "ideal."

Eligibility Requirements

The charge is often made that the eligibility requirements for entrance into cooperative programs are unnecessarily strict, thus screening out many students who could benefit most from the cooperative experience. Judged solely from the eligibility requirements that existed for the thirty urban cooperative case study programs, the old standards appeared to be undergoing a change, perhaps because of the change in emphasis from traditional single occupation programs to general occupation and diversified programs, but also because of a genuine attempt on the part of schools to reach students who once were considered unqualified for programs involving work experience.

Eligibility requirements were strict for only three secondary single occupation programs. In one of these, the school in which the program was located was highly selective (only half the school's annual applicants were granted admission). Only a fourth of this school's seniors were enrolled in cooperative programs, and they constituted the "elite." Selection for enrollment in cooperative programs was based on high attendance records, high grades, high test scores, and teacher recommendations. In the remaining two programs with strict eligibility requirements, the coordinators selected only students of high academic standing who had the skills required for the job orders received. If no students who met these criteria were available, the job orders were left unfilled.

What was far more typical was that eligibility requirements were set forth by the state education agency and administered by the LEA. For example, the only requirements of the state of Texas (which were typical of most state requirements) were that students be sixteen years of age or older, be in the twelfth grade, and have an "occupational intent." Otherwise, student selection was left to individual coordinators whose decisions were to be based on "the student's training objective, aptitude, interest, need, physical and mental competence, and other such qualifications deemed essential to successful employment."

Such regulations leave broad discretion to coordinators, many of whom tended to select those students who they personally believed could improve themselves by means of participation in cooperative programs. More often than not, these selections were made on the basis of personal interviews with all applicants. Grade point averages and past student attendance and conduct records were often ignored. This was particularly true for diversified programs, but it was also true for many general occupation programs. The result was that new types of students were being enrolled in new types of cooperative education programs.

Student reasons for enrolling in cooperative education programs -- in response to the question "What was your main reason for enrolling in a cooperative education program?" -- are as follows:

Reason	Percent[1]
Need work	21%
Bored with school	5
Wanted training for job	51
Wanted sample occupation	16
School policy	4
Other	3

Of the students queried, 67 percent said that they either "wanted training for a job" (51 percent) or "wanted sample occupation" (16 percent). Only 22 percent responded that they "needed work."

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[1] Rounded to the nearest number.

This of course does not mean that the majority of the students did not need work. (In most of the schools located in large and medium-size cities, a high percentage of the students enrolled were from low income families.) What it does mean is that the students had longer range goals in mind when they applied for cooperative programs. This spoke well for relaxed eligibility criteria.

Job Development

Job development has been mentioned in several of the preceding sections. What remains to be done is to summarize the techniques and standards used by coordinators in developing work stations for their students. At the secondary school level, regardless of the help provided by advisory committees and other resources, the ultimate responsibility for job development rested with the coordinator. The standards used for approving work stations varied from program to program, but generally included one or more of the following:

(1) Safe working conditions

(2) Adequate wages

(3) Training and supervision on the job

(4) Employer commitment to hire student on full-time basis after graduation

(5) Employer willingness to sign a contract (also signed by individual students, the coordinator, and sometimes a parent), specifying the training to be provided on the job, the wages to be paid, and student and school responsibilities

Because coordinators strove to obtain work stations which met the above criteria, secondary students were discouraged, and sometimes prohibited, from finding their own jobs. With respect to the single occupation programs, job development was not a difficult problem. All five of these programs had been in operation for long periods of time and had long-standing relationships with employers or unions. In fact, employers (in four instances) and a union (in one instance) had been instrumental in founding the programs or in pinpointing the schools in which the programs were located.

It was the coordinators of general occupation and diversified programs (especially the latter) who had to "hustle" for jobs. Coordinators -- sometimes armed with lists of potential employers provided by advisory committees or LEA officials, sometimes not -- used telephones, personal visits, and speeches before local organizations in their quest for work stations. In a few instances, coordinators were hired for a month prior to the fall term to perform job development; in most cases, however, job development began as students were being enrolled in classes. Job development was most difficult for those coordinators who insisted that employers hire successful graduates on a full-time basis. If this regulation was adhered to, the coordinator had to develop a large number of new jobs each school year. However, most of the coordinators had several years' experience in cooperative education and had accumulated files of employers who were willing to provide work stations (one coordinator who had twenty years' experience in cooperative education received job orders from former students).

While coordinators of secondary school programs developed 90 percent of the work stations in which students were placed, the exact opposite was true for post-secondary school programs. Job development at the post-secondary level was less hectic, primarily because the majority of enrolled students found their own jobs. The standards for work stations were also less strict at the post-secondary level. In some cases, enrollment in the program was contingent upon students obtaining jobs related to their school majors, but (with the exception of one post-secondary single occupation program) even where this rule was in operation, it was not strictly followed.

More than half the coordinators interviewed said that job development was adequate, but a large minority (43 percent) said the opposite. Since in only one city where the unemployment rate was at depression levels was it difficult to develop an adequate number of work stations, the dissatisfied coordinators were concerned either with the quality of work stations or the time required to perform job development. Coordinators who were brought on board one month before the beginning of the fall term solely for the purpose of job development were far less harassed than those who had to enroll students, develop jobs, and begin classes simultaneously.

Promotion and Public Relations

Promotional and public relations activities were directed toward the general public, employers, and vocational education students. The first was solely an LEA activity; the second was partly the responsibility of LEAs and partly that of individual coordinators; and the third was a school responsibility.

Promotional and public relations at the LEA level varied widely, depending on the priority given such activities by vocational educatio officials. In New York City and Houston, for example, public relations was considered extremely important, and the activities of central office staff generated a good deal of local publicity. In most other LEAs and community colleges, large-scale promotional and public relations campaigns were not considered a priority activity. The most common promotional techniques used were announcements of the appointment and activities of advisory committees, youth organization inter-school cooperative competitions, and semiannual or annual employer appreciation banquets. In New York, a series of events celebrating the city's fiftieth anniversary of cooperative education programs generated widespread coverage in the local press, radio, and television. In Houston, plans were under way to film the annual employer appreciation barbeque for dissemination to local television stations.

Overall promotional activities directed toward employers centered round the activities of advisory committees. In most LEAs, advisory committees were appointed for each vocational education subject area. The attempt, of course, was to appoint employers who were well known and respected in their various business and industrial areas in order to provide "seals of approval" for cooperative education programs, thus facilitating the job development effort. Although such activities tended to create a favorable atmosphere for cooperative education, the major brunt of the responsibility for employer relations fell to individual coordinators. Most coordinators brought to their jobs a certain number of employer contacts. In the course of operating programs, these were expanded through program advisory committees, supervision of students on the job, direct approaches to employers, and participation in local service club activities.

Campus promotional activities were conducted by students, coordinators, and counselors. The programs were announced and explained at school "career days" and general assemblies. In addition, cooperative education posters were placed on school bulletin boards, and either coordinators or counselors explained the programs (and solicited applications) to freshmen (at the post-secondary level) and sophomore and junior classes (at the secondary level). Several of the post-secondary and secondary coordinators interviewed also said that they visited high schools and junior high schools to acquaint students with cooperative programs.

Over half of the nonparticipating students interviewed said that they had heard of the cooperative programs in their schools, and 70 percent said that they would like to be enrolled in cooperative programs. Most of the programs had far more applicants than they could handle, indicating that on-campus promotion was not a major problem.

Eight out of ten of the nonparticipating employers interviewed responded that they were aware of cooperative education programs, and nearly half said that their participation had been solicited by schools. These figures indicate that the promotional and public relations activities conducted by LEAs, schools, and coordinators were effective.

PROGRAM OVERVIEW

Program content varied by type of program, but within program categories, the contents of programs fell into patterns which were similar in all sizes of cities and all regions of the country. Four general categories of program content are discussed in this section: (1) instruction, (2) work stations, (3) counseling, and (4) placement and follow-up.

Instruction

Table 4-4 shows participating and nonparticipating student responses to the question "How closely is the work that you perform on the job related to your classwork?" Although participant reponses were generally more positive than those of nonparticipants, the difference between the two groups in the "very closely" category was not significant, and a large minority of participants (30 percent) responded "not at all." These figures indicate that a close look should be taken at the various kinds of related instruction provided to the students enrolled in the thirty programs.

TABLE 4-4

Integration of Classwork with On-the-job Job Training -- Participants and Non-Participants
(Percentages)

Extent of Integration	Participants	Nonparticipants
Very closely	22	18
Somewhat closely	46	22
Not at all	30	57
No response	2	3

In only two single and one general occupation program was the classwork directly related to work performed on the job. In the remaining three single occupation programs, however, the cooperative component was open only to those students who had completed their required laboratory classwork, and one of the three -- a post-secondary auto mechanics program -- was a fourth-quarter requirement for graduation. Students in the latter program were required to attend three cooperative seminars during the quarter, but otherwise were at work full time.

The classwork for students enrolled in general occupation programs consisted of a combination of world-of-work instruction and specific skills training. For example, in business and office occupations programs, students would be given specific exercises related to the work they performed on the job in addition to world-of-work instruction.

Students in diversified programs received generalized or "world of work" instruction in such areas as occupational safety, employer and employee responsibilities, conducting the search for employment, grooming, and other such subjects. Very often these classes were loosely structured and some resembled group counseling sessions. In a few secondary programs, considerable class time was used in preparing for inter-school cooperative competitions. Heavy emphasis was placed on written objectives, drafted by the students, and class grades were often based on student-produced evidence (in writing) that progress had been made in meeting objectives.

Researchers who chatted informally with students came away with the impression that most students in world-of-work type classes did not take their classwork too seriously. "It's fun," one student said, "but it doesn't have much to do with my job." One coordinator said that he was not satisfied with the classwork, but that it was difficult to prepare classes for students who were not only working in a variety of occupational areas but whose school majors were in different areas. World-of-work textbooks were stacked on shelves in several classrooms, but there was little evidence that they were used. One coordinator called them "useless."

Thus the classwork component of diversified programs appeared to be a problem to students and coordinators alike. Yet employers seemed unconcerned. Only 6 percent of the participating employers complained that inadequate school training was a constraint limiting the expansion of cooperative education programs. It was evident, however, that the classwork portion of diversified programs was in need of improvement. Considering that diversified programs had helped open cooperative education to a wide range of urban students, some thought should be given to their improvement. The major area where improvement is needed is in the classroom curricula.

Work Stations

Student ratings of work stations were discussed in chapter 2. Both secondary and post-secondary participants rated "job satisfaction" and "job responsibility" higher on the average than nonparticipants. However, participants rated the overall quality of their work stations slightly below nonparticipants, and supervision and training about the same as nonparticipants. Although, as was noted in chapter 2, participants in cooperative education programs were apt to be more critical of their work stations than working nonparticipants, the process (or lack of a process) for matching students with jobs, the school-work structures, and the actual cooperative relationships that existed between schools and employers may also have had an effect on student opinions. Thus in this section, each of these subjects is discussed.

Matching Students with Jobs

With respect to three secondary single and four general occupation programs, coordinators exhibited great care in the matching process. Student laboratory, academic, and attendance records were checked, and recommendations were requested from regular vocational instructors. Some coordinators tested students in specific skills before referring them to employers. One coordinator said that he tried to match student-employer personalities. Another said that if, in his opinion, students were not qualified for existing job orders, he would not make any referrals. In other words, in these secondary school programs, the matching of students with jobs was considered extremely important to the overall success of the programs.

With respect to most post-secondary programs, the question of matching by the school was moot, since the vast majority of post-secondary students found their own jobs.

The job matching process in the remaining twelve secondary school programs (eight general occupation and four diversified) was extremely informal. Students were referred to jobs on the basis of job orders available and coordinator interviews with students. Since many of the work stations were entry-level positions in low-skilled occupational areas, the matching process was not considered important. One coordinator explained that she recruited students for her program by talking with students in the school cafeteria or hall. "See that boy over there," she said, "I walked up to him in the hall one day and said, 'How'd you like to be an ambulance driver?' and I had him!" It is possible that if a more careful matching procedure were used by coordinators of these programs, average student ratings of work stations would have been higher.

Work-Study Structures

The structures for alternating classroom instruction and on-the-job training differed sharply between secondary and post-secondary school programs. Secondary school students in multiple occupation projects (general occupation and diversified) generally spent their mornings in school and their afternoons at work. During the morning school hours, in addition to cooperative classes, students attended two or three classes required for graduation. In two secondary school single occupation programs, there was no alternation whatsoever; instead, students who had completed all of their requirements spent the final semester of their senior year in approved employment. Students in the remaining single occupation program alternated on a bi-weekly and monthly basis.

At the post-secondary level, students could gain varying degrees of credit for working from five to twenty hours a week at times convenient to them. Three post-secondary programs (two were single occupation), however, alternated work and study on a more formal basis. One used alternate quarters, one for twenty hours of classwork and the other for forty hours of work per week. The second, a fashion merchandising program, used the five weeks before Christmas -- when classes were not in session -- for the work-study period. In the third, students worked full time during their last four semesters. Their only school responsibility during this period was to attend three cooperative seminars.

In some occupational areas, the half-day structure of secondary school multiple occupation programs acted as a constraint on program expansion, primarily because it limited the number of part-time jobs that could be created for cooperative education students. Many jobs which involved the use of machines that have a high start-up cost (including some office machines) could not be made part-time employment because employers wanted the machines in use on a full-time basis. For such jobs, there seemed to be no reason why two students could not share one job so that the employer would receive the equivalent of one full-time employee. In New York City, this system was used. In some instances, however, this could create problems if a full-time employee were unemployed because two students took his or her job. Alternation on a schedule which was different from the schedule of the other classes taken by students required the creation of special academic classes which segregated cooperative education students.

Cooperative Relationships

This subsection examines the actual cooperative relationships that existed between schools and employers, including the use of signed contracts, provision for supervision on the job, and the grading of students for performance on the job.

Although most states or LEAs required that signed agreements -- which specify employer, school, and student responsibilities -- be executed between employers, schools (coordinators), students and, sometimes, parents, less than half the coordinators interviewed said that formal agreements were used. Moreover, twelve out of sixteen coordinators responded "no" to the question "Would programs be better if there were formal agreements between employers and schools?" It was clear that the regulation calling for formal agreements between employers and schools was not popular among coordinators. Several complained that it was impossible to get employers to sign contracts, and one stated emphatically that if he were to insist on signed agreements he would lose half his work stations.

In several instances where coordinators claimed that signed contracts existed, the participating employers interviewed said that they had "never heard of them." Table 4-5 shows that 81 percent of the participating employers interviewed responded either "no" (73 percent) or "don't know" (eight percent) to the question "Did you sign a formal contract with the school?" Since nearly half of the coordinators said that formal agreements were executed,

TABLE 4-5

Extent of Signed Agreements between Participating Employers and Schools

Response	Number	Percentage[a]
Total	86	100%
Yes	15	17
No	63	73
Don't know	7	8
No response	1	1

[a] Rounded to the nearest number.

it appeared that those coordinators who answered in the positive were going through the motions of giving the "right" answer but, in actuality, were not taking formal agreements too seriously. Thus it appeared that the relationship between employers and schools was for the most part informal. This informality carried over into the areas of on-the-job supervision and the grading of students.

Training and supervision on the job were left to employers, and in most cases no "training plan," or contract stipulation, was written for employers to follow. Most coordinators tried to visit work sites once a semester, but those with forty or more work stations claimed that this was difficult to accomplish. The result was that training and supervision on the job, integrated into an overall student educational plan, was not common. This factor may have accounted for the relatively low ratings students gave to "overall quality of work stations" and "training and supervision on the job" -- ratings lower than those of working nonparticipating students. It is also interesting to note that thirteen of the thirty coordinators interviewed responded that written standards pertaining to the adequacy of work stations did not exist.

With respect to the grading of students for their cooperative work, in six programs, employers were not asked to participate in the grading process; in other words, grades were not given on the basis of on-the-job performance. The remainder of the programs used "evaluation forms" which were filled out by employers and returned either directly to coordinators or delivered to coordinators by students. In addition, in most programs students were asked to keep formal records of hours worked and wages earned and have them signed by their employers. Grades for cooperative classes were based on school performance in the related class (50 percent) and employer ratings (50 percent). However, without specific training plans, employer ratings of student performance, although by no means unimportant, were only marginally related to educational objectives. In other words, students were rated as "workers" rather than as "students" in pursuit of educational goals. Although this applied mainly to multi-occupational programs, it also occurred in single occupation programs. For example, many single occupation students complained that they were used as "sweepers" or in other unskilled work not related to their school majors and therefore received little actual training on the job.

On the positive side, by not insisting that employers enter into formal agreements with schools, more employers were enticed into participation. The question raised was whether the loss of educational quality was worth the expansion. Taking into account the number of students who were benefiting from participation, the answer probably would be "yes," but a period of retrenchment may be in order.

Counseling

Because of the peculiar nature of cooperative education, once students become enrolled in cooperative programs, vocational and personal counseling becomes the function of coordinators and, sometimes, of employers. This was particularly true at the secondary school level, but it also applied to a lesser extent at the post-secondary level. Students were asked whether they discussed cooperative education with the school's regular counselors and, if they did, whether the discussions were helpful. Participating and non-participating student responses are shown in Table 4-6. The responses of both groups indicate that the counseling provided by the school's regular counselors in the thirty programs was relatively effective.

Coordinators, probably because they spent a major portion of their time counseling students, were less enthusiastic than their students about school counseling departments. Eleven of the thirty coordinators said the counseling available was inadequate; eighteen said that it was "adequate."

Virtually all of the secondary school coordinators interviewed said that a major portion of their time, including class time, was

TABLE 4-6

Student Ratings of Counseling by Participating and Nonparticipating Students for Secondary and Post-secondary Programs

(Percentages)[a]

Extent and Effectiveness of Counseling	Secondary		Post-secondary	
	Participating	Nonparticipating	Participating	Nonparticipating
Discuss course with counselor				
Yes	62%	55%	61%	53%
No	38	44	38	46
Helpfulness of counselor				
Very	43	37	56	42
Somewhat	52	52	35	50
Not helpful	4	11	8	7

[a] Rounded to the nearest number.

spent in counseling students on a day-to-day basis. Indeed, the relationship between cooperative education students and their coordinators, especially with respect to diversified programs, was primarily a counseling relationship. Students discussed potential jobs, problems on the job, and school problems with coordinators, and coordinators interceded on behalf of students with employers, teachers and, sometimes, regular school counselors. The consensus was that lack of supportive services was not a constraint which limited student participation in cooperative programs, although in some areas (Houston and Los Angeles, for example), the lack of private transportation was a constraint. One counselor in Oklahoma City spent considerable time driving students to job interviews and job sites. A Houston coordinator said that one of the eligibility requirements for entrance into his program was that students have the use of cars. However, other than organizing car pools or other methods of sharing transportation, there was not much either counselors or coordinators could do about the lack of adequate public transportation.

Placement and Follow-Up

Assessment of placement and follow-up included determining answers to the following questions:

(1) Were placement services available for use by cooperative students?

(2) Was follow-up on graduates performed?

(3) Were placement and follow-up records kept?

Eighteen coordinators said that placement services were available for their students; eleven said "no"; and one failed to respond. When asked to comment on the effectiveness of placement services, nineteen coordinators said that they were adequate; seven said that they were inadequate; and four failed to respond.

Half of the coordinators interviewed said that they conducted yearly follow-up surveys of the previous year's graduates. All were secondary school-level coordinators responding to state and LEA regulations which required such follow-up.

Records on placement were available for all secondary school programs, and follow-up records were available for those fifteen programs which conducted follow-up surveys. With the exception of three programs, placement and follow-up records were not available for post-secondary programs.

5

PROGRAM CONSTRAINTS

One of the major objectives of the study was to identify and analyze existing constraints or limitations in carrying out the various work education programs in urban settings, including constraints which are internal to the program, such as the need for trained coordinators, and those which are external to the program, such as limited access to industrial jobs because of movement of industry away from inner cities. Program constraints or lack of constraints were mentioned or implied in chapters 1 through 4; in this chapter, those constraints which were identified are summarized, and possible constraints which were hypothesized and tested during the course of the study are discussed.

The following four hypotheses were tested:

(1) It is not possible to mount large-scale work education programs in areas of high unemployment or in "depressed" areas.

(2) Reluctance of urban-area employers to cooperate in work education programs effectively blocks initiation of such programs.

(3) In occupational areas controlled by labor unions, or when high unemployment is prevalent, it is not possible to initiate school-supervised work education programs.

(4) The attitudes of a large number of inner city students make it impossible to place them in work education settings.

It might be well to begin by discussing (2) and (4) above (which proved to be false), and then go on to a discussion of the constraints which were clearly identified. These will be divided into two categories: (1) external constraints, and (2) internal constraints.

NONCONSTRAINTS

Hypotheses regarding the reluctance of urban employers and the attitudes toward work of inner city students (hypotheses 2 and 4), were tested not because either personnel at the U.S. Office of Education or the contractor thought they were true, but because social commentators have often accused the schools of failing to initiate cooperative programs in urban areas because of these reasons -- reasons which they (the social commentators) thought were false. The fact is that cooperative education programs have been launched in urban areas and, ever since the 1968 amendments, new types of programs have been designed for students who heretofore have been denied access to cooperative programs. The criticism that can be expected next is that the schools have designed inferior cooperative programs for students who are not listed among the vocational education elite.

It should be emphasized, however, that the traditional single occupation cooperative education program is suitable only for those students who have decided upon careers in specific occupational areas -- a small minority of all students enrolled in vocational education programs. Notwithstanding the fact that general occupation and diversified programs could be improved, these programs, by relating classwork to actual work situations and by providing an exploratory channel for students who are still undecided on careers, are serving a sound educational purpose.

As for the hypotheses themselves, according to the coordinators and employers interviewed, they are found to be false. The coordinators were asked a series of questions regarding "employer reluctance." The results are summarized as:

(1) Inaccessibility of employers: Of the 26 coordinators who responded to the question "Is inaccessibility to employers an obstacle in gaining employer support?" 24 said "no."

(2) Employer refusal to accept students: Of the 25 coordinators who responded to the question "Is employer refusal to accept students an obstacle in gaining employer support?" 21 said "no."

(3) Absentee employers: Of the 25 coordinators who responded to the question "Is the fact that most urban employers do not live in the city an obstacle to gaining employer support?" 21 said "no."

In other words, employer attitudes toward urban cooperative education programs did not appear to be obstacles to coordinators, or to put it positively -- there was no dearth of employers willing to cooperate in urban programs.

Attitudes of urban students toward work were assessed from answers of participating employers to a series of questions. The responses are summarized as:

(1) Enthusiasm of students: Of the participating employers who responded, 65 percent rated the enthusiasm of their student employees as "excellent"; 34 percent said that it was "average"; and 1 percent said that the enthusiasm of the students was "poor."

(2) Intellectual ability of students: Of the participating employers who responded, 32 percent rated student intellectual ability as "excellent"; 66 percent gave it an "average" rating; and 2 percent said that student intellectual ability was "poor."

(3) Vocational skills of students: Of the participating employers who responded, 21 percent rated the vocational skills of student employees at the beginning of the programs as "excellent"; 62 percent said "average"; and 17 percent rated student vocational skills as "poor." At the end of the programs, the ratings were 66 percent "excellent," 33 percent "average," and 1 percent "poor."

(4) Success of students in the program: Participating employers who responded rated the success of completing students as follows -- 66 percent, "excellent"; 31 percent, "average"; and 3 percent, "poor."

(5) Nonmotivated students: When asked whether the referral of nonmotivated students was a barrier to program expansion, 75 percent of the responding employers said "no." These employer responses speak for themselves. Just as there was no lack of employers willing to hire urban students, there was no lack of well-motivated, enthusiastic, and capable students willing to participate in urban cooperative programs. The employer student ratings were particularly significant in view of the fact that well over a third of the programs enrolled students of average or below average academic standings (i.e., students with C, D, or F grade point averages).

There were other nonconstraints that are germane to the assessment: Participating employers were asked whether any of the following were barriers to participation in cooperative education programs:

(1) Poor class instruction
(2) Opposition from regular employees
(3) Students difficult to supervise
(4) Safety reasons
(5) Insurance reasons
(6) Legal reasons

All employers who responded rated these factors as "relatively unimportant." Nonparticipating employers were asked the same questions, but the vast majority responded that they could not anticipate problems that might arise if they were to hire student employees.

EXTERNAL CONSTRAINTS

Three types of external constraints are discussed in this section: (1) adverse economic conditions, (2) union opposition, and (3) lack of adequate public transportation. The first two are the most serious, and the most difficult to assess, since the study's findings are not entirely clear on the extent to which these external constraints are significant constraints.

Adverse Economic Conditions

It has already been pointed out that in all of the cities (with the exception of Detroit) where unemployment rates were above the national average (5.6 in 1974), it was not difficult to develop work stations for cooperative education students. The situation in Detroit was so bad that funds for the classroom portion of the cooperative education program had been cut and students were permitted to seek jobs on their own (in better times, all jobs were developed by the coordinator). But in most cities with above average unemployment, coordinators were having little difficulty in developing work stations. However, it was also pointed out that post-school placement rates were significantly lower than those programs in cities with average and below average unemployemnt rates. The latter finding by itself was not an indication that adverse economic conditions limited the *initiation* of urban cooperative programs, but only that they had a negative effect on program *success*.

However, there were other indications that adverse economic conditions were having a limiting effect on cooperative education programs in some cities. These are summarized below:

(1) Single occupation programs: Programs in highly skilled craft areas were feeling the affects of the economic downturn. Coordinators of all of these programs said that they were spending more time in job development than they had when economic conditions were better. Several coordinators of single occupation programs also cited the loss of work stations because of the movement of industry from central city locations to the suburbs.

(2) Obstacle to gaining employer support: The most often mentioned obstacle to gaining employer support (by coordinators) was "adverse economic conditions." Nineteen of the 26 coordinators who responded to this question cited adverse economic conditions.

(3) Employer reasons for ceasing participation: Of the ten nonparticipating employers who had once participated in cooperative education programs and responded to a question which asked why they had ceased participation, seven cited either "economic conditions" (four) or "no need" (three).

(4) Union opposition: Union respondents indicated that they would oppose the initiation of work education programs if economic conditions were bad (union attitudes will be summarized in more detail in the following section).

Although the evidence is mixed, over all it supports the conclusion that adverse economic conditions have a constraining effect on cooperative work education programs. In all but one city, the unemployment rate had not reached a level where it seriously affected the development of student work stations, but in those cities with above average unemployment, adverse economic conditions appeared to affect post-school placement rates negatively.

Union Attitudes

The Los Angeles Federation of Labor, AFL-CIO, issued a "Statement of Position on Community Involvement in Vocational Education," which may be typical of the attitudes of most union officials and members toward work education programs. Such programs, the statement reads, should have advisory committees which include labor representation. Unions should be consulted on the initiation of new programs and be assured that regular workers will not be displaced. In addition to receiving school credit and the minimum wage, students who participate in work education programs should be extended the benefits of social security and unemployment insurance. Finally, "there (should) be periodic reviews and reports by school personnel of places of employment and conditions of labor. Such reports should be given to each member of program advisory committees."

The Los Angeles formal statement was rather unusual and may have resulted because school personnel sought to gain the participation of the central labor council in work education programs. In most of the cities visited, no such attempt had been made, and this lack may have been due partially to school fears of overreaction by union officials. Although the Los Angeles statement appears to be eminently reasonable, it could be viewed as a threat by both school officials and employers.

Of the seventeen union officials interviewed, only three had ever been approached by the schools, or had ever heard of cooperative education. Two of the three union representatives who indicated that they had been approached previously were in large, highly unionized cities (New York and Los Angeles) where labor councils take an active interest in all manpower-related programs. The other was a building trades official who agreed to participate in a Fort Wayne, Indiana, building trades cooperative program.

Looked at from the point of view of the school, when coordinators were asked to rate the cooperation of unions in cooperative education programs, approximately half indicated that union cooperation was "not applicable," indicating that students were placed in jobs where unions had no jurisdiction. Of those who did consider union participation applicable, seven rated union cooperation "poor," two "average," two "above average," and one "excellent."

Of the participating employers who were asked to rate union opposition as a barrier to participation in cooperative programs, 67 percent said that the question was not applicable, and 3 percent replied "don't know." Of the few who did rate union opposition, only two said that it was "hard to overcome." The remaining twelve employers (14 percent) said that union opposition was "relatively unimportant."

What this implies is that union opposition was not a major constraint limiting the initiation of cooperative education programs in urban areas, primarily because most of the work stations to which students were assigned were not in union jurisdictional areas. Whether union opposition would be a constraint if schools attempted to develop work stations in areas where union influence was strong had not been adequately tested. Several of the long-standing single occupation programs had union support, but only one program (the Fort Wayne building trades program) was a relatively recent example of school-union cooperation.

Yet there was some evidence to indicate that union opposition would be a limiting factor:

(1) Of the thirteen nonparticipating employers who had been approached by the schools and who had refused to participate, four cited union opposition as the reason for nonparticipation.

(2) One of the fifteen nonparticipating employers who had once participated in cooperative education said that he was forced by the union to cease participation.

(3) As stated previously, most of the union representatives interviewed said that they would refuse to cooperate with schools in the promotion of work education programs during periods of adverse economic conditions.

(4) Five union representatives said that they would refuse to cooperate if cooperative education programs were initiated in apprenticeable occupations, or in occupational areas where union apprenticeship programs existed.

On the whole, increased participation by unions probably would be beneficial to the success of cooperative education programs. Without some countervailing influence, the newer type of cooperative programs, especially diversified programs, could easily become solely a source of part-time workers for employers, devoid of the usual benefits, and lacking in educational significance. The presence of union representatives on advisory committees, or other administrative structures, would lessen the possibility of this happening. However, so long as cooperative programs are concentrated in non-union occupational areas, and so long as school officials do not attempt to obtain the cooperation of unions, union opposition will not be a significant constraint limiting the initiation of cooperative work education programs in urban areas.

Public Transportation

In several cities, notably Los Angeles, Houston, and Oklahoma City, the inadequacy of public transportation, coupled with the vast distances that central city students were required to travel to work stations, limited enrollment in cooperative education programs to students with private cars or to those who had the use of automobiles. Although this did not appear to be a significant factor that would limit initiation of cooperative education programs, it could be a factor in limiting program expansion.

INTERNAL CONSTRAINTS

Three internal constraints, two of which are related, were positively identified: (1) lack of coordinators, (2) coordinator lack of time to promote employer participation, and (3) program structure. Of these, the first is by far the most important, and is more important than any of the external constraints discussed above.

Lack of Coordinators

All of the programs studied, with the exception of one post-secondary auto mechanics program, were operating at or near capacity. Since enrollment in most secondary school programs was limited by state or local regulations, substantial expansion of existing programs would be virtually impossible without the engagement of additional coordinators. This in turn means either additional funds must be found or existing nonwork education programs must be redesigned. The opportunity for expansion, where the number of students who would like to enroll in work education programs is concerned, was evident. Applicants for programs far exceeded the number of openings. However, at what point the saturation level would be reached, in terms of the number of part-time jobs that could be developed, was not evident. In some cities, especially those in the Southwest, it appeared that program expansion in terms of both available students and part-time jobs was possible. In other cities, it appeared that economic factors would vitiate program expansion.

However, it would seem that the only way program expansion could take place would be through increasing the supply of coordinators. Whether local school officials were disposed toward redesigning regular vocational education programs (and thereby transforming instructors into coordinators) is an issue that is beyond the scope of this study; but it seems doubtful that this would occur. The 1968 amendments, by mandating the use of set-aside funds for work education programs spurred the growth of cooperative education in urban areas. It is doubtful also that, without additional funds from non-local sources, expansion in cooperative education programs would continue rapidly. The only other way that expansion could occur would be by increasing present student-coordinator ratios, or by increasing the allotments of time that coordinators are allowed for administering cooperative education programs.

Coordinator Lack of Time for Employer Promotion

Most coordinators began their job development efforts each fall term at the same time that applicants were being interviewed and registered and while classes were being organized. The result was that eighteen out of 26 coordinators who responded to a question regarding obstacles to employer promotion cited "lack of time" as the most serious obstacle. In New York City, LEA coordinators were assigned full time to job development and employer relations, thus relieving school coordinators of the job development responsibility. One secondary school program assigned the entire job development effort to its advisory committee. Most post-secondary students, of course, found their own jobs.

Although the New York City system worked well, it is probably not transferable to other areas. The New York program has been in existence for fifty years and, during that period, a rather sophisticated administrative structure has been developed. Additional funds would be required for other LEAs to emulate the New York model.

Although all programs should strive to develop active advisory committees, it is doubtful that all programs throughout the country could develop advisory committees who would agree to shoulder the entire job development responsibility.

Finally, although student job development may be appropriate at the post-secondary level, it most definitely would not be appropriate at the high school level, in view of the lack of physical and vocational maturity of most students.

The best solution to the problem of coordinator lack of time appears to be the hiring of coordinators one month in advance of the start of fall term, solely for the purpose of job development. Where this was done, the development of work stations was not a harassing problem, and coordinators were able to increase substantially their employer contacts.

Program Structure

At the secondary school level, the development of an adequate number of part-time positions was hampered by the alternating work-study structure adopted by most high schools. This structure called for students to attend school in the mornings and work in the afternoons. Structures which paired students on jobs, so that employers were receiving the equivalent of full-time employees, might increase the number of job orders received from employers of machine operating personnel, including some business machines. Such pairing could be on a daily basis, or term basis, so long as work education students are not segregated in their academic classes.

SUMMARY

The most serious obstacle to program expansion appeared to be the lack of additional coordinators. Whether this was an "internal" of "external" constraint depended upon the observer's point of view. School administrators, accustomed to the flow of federal funds for work education programs, would no doubt cite "lack of funds" as the major reason that it was not possible to hire additional coordinators. Others would say it was the reluctance on the part of school administrators to redesign existing nonwork education programs and reassign vocational education instructors now employed by schools to positions as coordinators. Regardless of whether the reasons were were internal or external, however, lack of coordinators was the major constraint limiting program expansion.

Adverse economic conditions were the major external factor limiting program expansion. Even if it were possible to increase the supply of coordinators, major program expansion probably would not be advisable in cities suffering severely high unemployemnt rates. Whether union opposition was a real constraint is questionable. Certainly, with respect to the thirty programs included in the urban cooperative education sample, the test had rarely been conducted. Too few union representatives had been approached by school officials, and too few attempts had been made to place students with employers who had collective bargaining agreements with unions.

6

SUMMARY

The United States Office of Education (USOE) in 1972 launched a two-part study to assess the effectiveness of school-supervised work education programs mandated under the set-aside provisions of the 1968 amendments to the Vocational Education Act of 1963 and other work education legislation. The overall purpose of the study was threefold:

(1) To provide useful information on the relationships between the kinds of experiences students receive in various types of work education programs and their post-program experiences

(2) To identify and analyze existing constraints or limitations in carrying out the various work education programs, including both "internal" and "external" constraints

(3) To determine the feasibility of expanding *cooperative* education programs

Part I of the study, conducted by the System Development Corporation and completed in September 1973, addressed itself to cooperative education (mandated under Part G of the amendments), work study (mandated under Part H of the amendments), Job Corps, and work experience (e.g., those funded under the Neighborhood Youth Corps and WCEP) programs. Fifty case studies were compiled, and interviews were conducted with samples of program participants and students attending the same schools who were not enrolled in work education programs. The fifty-program Part I sample was further stratified into the following categories of programs:

(1) Special education (cooperative and Job Corps programs): Programs which provided students with the opportunity to obtain school jobs related to their vocational education majors. These programs were headed by coordinators who also functioned as instructors or guidance counselors.

(2) Dropout prevention: Programs which provided students with supplemental income to induce or permit them to remain in school. Such programs could be funded from Part H, Neighborhood Youth Corps, or other funding sources.

(3) Career exploration: Programs which provided students with the opportunity to explore varied occupational areas by observing workers and actually performing tasks for pay on a variety of jobs. Such programs could have been funded from WCEP, Part H, Neighborhood Youth Corps, or other funding sources.

Part II of the study, conducted jointly by Olympus Research Corporation (ORC) and DECIMA Research (DECIMA), had two major purposes:

(1) to assess the effectiveness of cooperative education programs located in urban areas, and (2) to determine the post-program experiences of both participants and nonparticipants interviewed in conjunction with Part I of the study. Its specific purposes were as follows:

(1) The compilation of thirty case studies of cooperative education programs operating in secondary and post-secondary institutions located in the nation's hundred largest cities

(2) The administration of interviews to participants in the thirty programs, and a cohort group of vocational education students attending the same schools but not enrolled in cooperative programs

(3) The administration of follow-up interviews to all students (both participants and nonparticipants) who were interviewed in conjunction with Part I of the study

(4) The comparison of the results of (3) above with the post-school experiences of a group of vocational education students who responded to a national longitudinal follow-up study of the class of 1972 sponsored by the National Center for Educational Statistics

This executive summary contains the findings, conclusions, and recommendations of Part II of the study and, wherever possible, integrates the Part II findings and conclusions with those of Part I. The material is organized into three sections: (1) urban case study assessment, (2) the follow-up study, and (3) conclusions and recommendations.

URBAN CASE STUDY ASSESSMENT

The sample of thirty urban-cooperative education programs was selected from four hundred programs nominated for possible inclusion in the sample by state and local educators, members of state and national advisory committees on vocational education, and other experts in the field of vocational education. The sample selected was structured as follows:

(1) Educational level:
  (a) Secondary programs -- nineteen
  (b) Post-secondary programs -- eleven

(2) Size of city:
  (a) Large (cities with populations of over one million) -- ten
  (b) Medium (cities with populations between 300,000 and 999,999) -- ten
  (c) Small cities with populations under 300,000 but still among the hundred largest cities in the nation) -- ten

(3) Minority and disadvantaged enrollment:
  (a) More than 50 percent minority or disadvantaged -- ten
  (b) Less than 50 percent minority or disadvantaged -- twenty

Based on an analysis of the program nominations received, about half of the cooperative education offerings were in the traditional areas of distributive education and business and office occupations. However, the field work showed that the emphasis was shifting from traditional single occupation programs to multiple occupational programs. In fact, after the on-site visits had been completed, the case study programs were reclassified into the following categories (all under the supervision of a single coordinator):

(1) Single occupation programs: Programs in which students received classroom instruction in specific occupations and were placed in jobs closely related to their classroom training

(2) General occupational cluster programs: Programs in which students received classroom instruction in general occupational areas and were placed in a variety of different jobs within occupational clusters

(3) Diversified programs: Programs in which students received world-of-work training in the classroom and were placed in a variety of jobs, not necessarily related to their majors in school or within any specific occupational cluster

The actual distribution of the sample by the categories listed above was as follows:

(1) Single occupation -- five

(2) General occupation -- sixteen

(3) Diversified -- nine

Bivariate Correlation Analysis

A bivariate correlation analysis was performed to determine if significant relationships existed between success criteria (dependent variables) and potential predictors of program success (independent variables). The success criteria, or dependent variables, identified were as follows:

(1) Completion and placement rates (for secondary programs only; completion and placement records were not kept for most post-secondary programs): Programs with above average completion and placement rates were considered "successful."

(2) School and job satisfaction (as rated by students): Programs in which students rated their school and job satisfaction above the average for the sample as a whole were considered most successful.

(3) Other: Above average student responses to the following were considered successful program outcomes --

(a) Program helped decide occupation

(b) Desire full-time job in same occupational area as school job

(c) Program fits with student career interests

(d) Overall student ratings of programs

(e) Likelihood that students will recommend program to friends

(f) Student attitude toward instruction

(g) Student attitude toward jobs

A total of 33 independent variables, categorized as follows, were identified:

(1) Type of program: Single occupation, general occupation, and diversified

(2) Size of city: Large, medium, and small

(3) Unemployment rates in cities: Above 1974 national average (5.6 percent), same as national average, and below national average

(4) Student characteristics: Sex, minority status, grades, and student enthusiasm

(5) Administrative: Seventeen different administrative variables, including student-coordinator ratios, existence of advisory committees, availability of placement services, counseling, work stations, integration of classwork with on-the-job training, and enthusiasm of teachers

Type of Program

The findings of the bivariate correlation analysis by type of program were as follows:

(1) Diversified programs: There were inverse correlations between six of the dependent variables and "type of program -- diversified" at the secondary level. Completion rates for diversified programs were lower, fewer of the students interviewed said that their jobs related to their career interests, programs were given lower student ratings, fewer students would recommend the programs to friends, and student attitudes toward diversified programs were less positive than the average for the total sample.

(2) General occupation programs: Completion rates, job responsibility, job satisfaction, school satisfaction, and program helped decide occupation were all higher for secondary school general occupation programs. However, training-related placement rates were lower for the general programs.

(3) Single occupation programs: As might be expected, high school single occupation programs correlated significantly with "program helped decide occupation" and "placement -- training related."

(4) There were no significant correlations at the post-secondary level.

Size of City

Significant correlations of success criteria and size of city occurred most often in the category "large cities -- secondary." Three of the correlations were inverse: "dropout rate" (meaning that dropout rates increased) in large cities; "job responsibility" (meaning that job responsibility decreased); and attitude toward job (meaning that attitudes toward jobs were less positive in large cities). On the other hand, there were positive correlations with "school satisfaction," "program helped decide occupation," and "recommend program to friends." Since there were no significant correlations with dependent variables and "small cities," only three comparisons -- all between large and medium-size cities -- could be made at the secondary level. Job responsibility and attitude toward job increased in medium-size cities, but decreased in large cities; on the other hand, school satisfaction increased in large cities, but decreased in medium-size cities.

At the post-secondary level, in large cities inverse correlations were identified between "overall student rating of program" and "student attitude toward program"; the reverse was true for small cities.

Unemployment Rates

There were no significant correlations between placement rates and unemployment rates for secondary school programs, although there were higher dropout rates in cities with lower unemployment rates. This finding seemed to support the general feeling of ORC researchers that rising unemployment rates, with the exception of one program in a city where the general unemployment rate was more than 15 percent, were not having an adverse effect on cooperative programs.

The findings also indicated that job satisfaction, school satisfaction and the number of students who desire full-time jobs in the same areas as their school jobs were higher in cities with below average unemployment rates.

Student Characteristics

Completely opposite conditions were found for students with A or B grades and those with grades of C or lower (Table 6-1). Students with A or B grades had higher degrees of school satisfaction, rated their programs higher, had more positive attitudes toward their program, and were less likely to drop out. The exact opposite was true for students with grades of C or lower, who also would be less likely to recommend their programs to friends. On the other hand, students with A or B grades were less likely to want full-time jobs in the same occupational areas as their school jobs. Once again, the reverse was true for C, D, or F students. Thus, although programs which enrolled average to below average students encountered far more problems with dropouts and student attitudes than those which enrolled above average students, in terms of career goals the program seemed to be more important to C, D, and F students.

TABLE 6-1

Bivariate Correlation Analysis of Dependent and Independent Variables by Student Grades for Secondary Programs Only[a]

	Student Grades	
Dependent Variables	A and B	C, D, and F
School satisfaction	$x_{(+)}$	$x_{(-)}$
Desire job in same area	$x_{(-)}$	$x_{(+)}$
Overall student rating of program	$y_{(+)}$	$y_{(-)}$
Would recommend program to friend	(*)	$y_{(-)}$
Attitude toward program	$y_{(+)}$	$y_{(-)}$
Dropout rate	$x_{(-)}$	$x_{(+)}$

[a] Key:
x = correlations at 0.05 significance levels.
y = correlations at 0.01 significance levels.
(+) = variables increase or decrease together.
(-) = inverse relationship.
(*) = no correlation.

Administrative Variables

Strong correlations existed between several success criteria and training and supervision on the job at both the secondary and post-secondary levels. The same was true with regard to integration of classwork and on-the-job training at the secondary level, and overall quality of work stations at both levels.

There were, however, several correlations, which appear to be related, that are difficult to explain -- all at the secondary level. They are as follows:

(1) As training and supervision on the job increased, completion rates decreased and programs were less likely to fit with student career interests.

(2) As overall quality of work stations increased, completion rates decreased.

(3) As the ratio of students to coordinators increased, completion rates increased and dropout rates decreased.

The most likely explanation for these apparent anomalies is that the unexpected number of diversified programs included in the sample (nearly 30 percent of the sample programs), caused distortions that otherwise would not have occurred. Most of the students enrolled in diversified programs were classified either as disadvantaged or average to below average students. It is possible that students in diversified programs preferred as little supervision as possible (either at school or on the job) and felt uncomfortable in jobs which required a high degree of individual responsibility. In several cases, coordinators of diversified programs told ORC researchers that they refused job orders from employers which they thought were beyond the abilities of their students. Although such statements seemed paternalistic and condescending at the time, it may be that these coordinators were merely facing reality.

Significant correlations were also found between counseling and several success criteria. Students who received highly rated and effective counseling rated their programs higher, were more likely to recommend programs to friends, and had more positive attitudes toward their programs. These relationships were strongest at the secondary school level, but they also occurred at the post-secondary level.

Student Analysis

The objective of the student analysis was to compare outcomes for students participating in urban-cooperative education programs with those of a cohort group of vocational education students who were not enrolled in cooperative programs. The analysis was based on interviews with 1,449 students, 675 of whom were participating in the case study programs (774 nonparticipating). Of the 774 nonparticipating students, 451 were working, whereas 618 of the 675 participants were working. Thus comparisons with respect to experience on the job were based on interviews with 618 working participants and 451 working nonparticipants.

Participants at both levels scored higher than nonparticipants in the following areas, with post-secondary school participants scoring higher than secondary school participants:

(1) Job satisfaction and job responsibility

(2) School satisfaction

(3) Vocational education program fits with career goals

(4) Likelihood of students recommending programs to friends

Nonparticipants, on the other hand, rated the overall quality of their jobs higher than participants and rated training and supervision on the job equal to participants.

It should be noted, however, that students enrolled in cooperative programs expect higher quality work stations and more training and supervision on the job than nonparticipants, who were not enrolled in school-supervised work education programs. The participants, therefore, may have been more critical than nonparticipants in rating work stations and training and supervision on the job. Other possible reasons for low participant ratings in these areas will be discussed in the section on administrative and program overview.

Comparisons by Sex

On the whole, women expressed less positive attitudes toward cooperative education programs than men. The reasons may be as follows:

(1) Wages: Women earned less than men at both the secondary and post-secondary school levels, but the difference was most pronounced at the post-secondary level where women earned an average of $1.62 an hour less than men. This finding, coupled with the follow-up study finding that women who were trained in the same occupational areas as men were earning considerably less than men two years after their training, is unfortunately a typical finding of studies of sex and employment.

(2) Occupation: The occupational range for women at both the secondary and post-secondary levels was much narrower than that of men. At the secondary school level, women were employed primarily in the clerical, sales and management, and service occupational areas; men were fairly well distributed throughout all occupational areas, and were virtually the only participants in the blue-collar area (skilled craftsmen and operators).

Comparisons by Minority Status

Post-secondary minority participants expressed more positive attitudes toward cooperative programs than their secondary counterparts. This ties in with the follow-up study which shows that minority participants in post-secondary work education programs have economic outcomes better than those of minority nonparticipants and equal to those of nonminority participants. At the secondary school level, nonminorities expressed slightly more positive attitudes, but the differences between the two groups were not great.

Once again, the occupational areas and the wages received by minorities account for the differences. At the post-secondary level, minority participants were earning an average of $1.66 an hour more than nonminority participants, whereas at the secondary level, minority participants were earning slightly less than nonminority participants. Nonparticipants at both levels, with the single exception of nonparticipating minorities, were earning more than participants.

At the secondary school level, minorities predominated in the clerical, blue-collar, and service areas; however, fewer minorities were employed in blue-collar trades as compared to nonminorites. At the post-secondary level, a much higher percentage of minorities were employed in blue-collar trades, and very few were working in service occupations.

Completion and Placement Rates

Completion and placement rates were calculated for secondary programs in cities with varying 1974 unemployment rates by size of city and type of program. Four major points were highlighted by this analysis:

(1) Completion and placement rates were generally high for the sample as a whole. The average completion and placement rates were 84 and 70 percent respectively; and the training related placement rate was 75 percent.

(2) The average completion rate for diversified programs was between 21 and 22 percentage points lower than the completion rates of single and general occupation programs.

(3) The average placement rate for programs in cities with above average unemployment was between 23 and 25 percentage points lower than the placement rates for programs in cities with below average and average unemployment.

(4) The average training-related placement rate for general occupation programs was 33 percentage points lower than that of single occupation programs, and 9 percentage points lower than that of diversified programs.

It would appear, therefore, that diversified programs were more susceptible to dropouts than single and general occupations programs. The question arises as to whether this was because of the characteristics of their enrollments, or because of the nature of diversified programs. The answer seems to be that it was a combination of both. Most diversified programs were aimed at either disadvantaged students or students with low grade-point averages (or "potential droputs"). Programs which aim at such a target population must expect higher dropout rates, or lower completion rates.

On the other hand, most diversified programs were so loosely constructed, in comparison to single and general occupation programs, that students often may not have taken them very seriously. In most cases, attempts to integrate classroom instruction with on-the-job experience were not substantial, and the jobs to which students were assigned were seldom related to their vocational education majors. These factors probably accounted for the lower completion rates of diversified programs.

The relatively low placement rates for programs located in cities with above average unemployment indicates that even though it may not have been difficult to find part-time work stations for students while they were in school, it was quite another matter for students to find full-time employment after graduation. Thus it would appear that if the ultimate outcome for cooperative education programs is considered to be placement of students in full-time jobs after graduation, this can be adversely affected by poor economic conditions.

Administrative and Program Overview

The major findings of the study regarding program administration and program content are summarized in this section.

The Role of the Coordinator

The internal organization of the typical program in the urban case study sample could not be simpler. It consisted of a coordinator and his or her students. Virtually all responsibilities relating to cooperative programs were turned over to coordinators, and once students became involved in cooperative programs, their ties with other school departments became increasingly weak. Most of the programs studied tended to be self-sustaining, even to the point that they were housed apart from other school programs.

The responsibilities of the typical coordinator included:

(1) In-school promotion and recruitment
(2) Selection of students
(3) Preparation of curricula
(4) Teaching of cooperative classes
(5) Job development and employer relations
(6) Referral of students to jobs
(7) Inspecting work sites and observation of student performance on the job
(8) Counseling of students
(9) Grading of students
(10) Placement (for high school students only and only in certain LEAs)
(11) Self-evaluation

Other findings relating to coordinators were as follows:

(1) Training of Coordinators: Fourteen of the thirty coordinators said that they had received special pre-service training to prepare them for their responsibilities as coordinators; twenty responded that they had received in-service training. However, it appeared that the vast majority of coordinators interviewed did not consider special training a major priority. What appeared to be more important was the selection of coordinators, or the identification of individuals with the personality

traits necessary for fulfilling the major responsibilities of a coordinator. Coordinators must enjoy and be adept at meeting employers, speaking to the public, and arbitrating problems that may arise between students and employers. It appeared that the coordinators of diversified programs needed help in devising strong curricula for the classroom portion of cooperative education programs directed toward students with a variety of school majors and working in jobs not restricted to a single occupational cluster (see below), and training in presenting world of work curricula.

(2) Ratio of Students to Coordinators: Although regulations in most states restricted the number of students per cooperative education class to twenty, coordinators were usually assigned two classes, thus the actual student-coordinator ratio was nearer 40:1. Higher student-coordinator ratios was one of the major reasons program expansion was possible. Most of the sample programs were operating at capacity; thus expansion would not have been possible without the creation of additional classes and the assignment of such classes to the coordinators of existing classes. With respect to high student-coordinator ratios, the following are pertinent:

(a) It was beyond the scope of this study to determine definitively whether high student-coordinator ratios resulted in program deterioration. However, it appeared that the benefits accruing to the additional students participating in cooperative education programs, made possible by higher student-coordinator ratios, far outweighed whatever program deterioration (if any) may have occurred.

(b) Full-time coordinators appeared to have little trouble in performing all coordinator functions for forty students; coordinators who had school responsibilities other than their cooperative duties found it difficult to monitor job sites for forty or more students.

(c) However, based on study findings which show that the outcomes for work education students were not much different from those of regular vocational education students, it would not appear that student-coordinator ratios as low as 20:1 would be cost effective.

(d) Additional research is needed to determine the number of students one coordinator, working full-time can supervise on a regular basis. Such research should probe the time needed for the average coordinator to recruit students, develop curricula, teach classes, develop work stations, and monitor students work sites.

Advisory Committees

There was ample evidence to support the contention that active and involved advisory committees, both citywide and for specific programs, enhanced the quality of cooperative education programs. On the other hand, several programs were operating quite successfully without program advisory committees, or significant contributions from citywide committees. The consensus as to what constituted an active and involved advisory committee was that such a committee, composed of well-known or high-level business or industry representatives, would meet often and perform two major functions, listed in order of their importance: (1) employer relations and job development, and (2) curriculum development and revision.

Eligibility Requirements

Eligibility requirements were strict for only three secondary, single occupation programs. Typically, eligibility requirements were established by the state education agency and administered by the LEAs. Most standards required that students be 16 years of age or older, be in the twelfth grade, and have an "occupational intent." Otherwise, student selection was left to individual coordinators whose decisions were to be based on the student's training objective, aptitude, interest, need, physical and mental competence, and other such qualifications deemed essential to successful employment.

Such regulations left broad discretion to coordinators. Although it was true that many coordinators tended to select those students whom they personally believed could improve themselves by means of participation in cooperative programs, more often than not these selections were made on the basis of personal interviews with all applicants. Grade point averages and past student attendance and conduct records were often ignored. This was particularly true with respect to diversified programs, but it was also true for many general occupation programs.

The result was that new types of students were being enrolled in new types of cooperative education programs.

Job Development

More than half the coordinators interviewed said that job development was adequate, but a large minority (43 percent) said the opposite. Since in only one city, where the unemployment rate was at depression levels, was it difficult to develop an adequate number of work stations, the dissatisfied coordinators were concerned either with the quality of work stations, or the time required to perform job development Coordinators who were brought on board one month before the fall term began, solely for the purpose of job development, were far less harassed than those who had to enroll students, develop jobs, and begin classes all at the same time.

Promotion and Public Relations

Promotional and public relations activities were directed toward the general public, employers, and vocational education students. The first was solely an LEA activity; the second was partly the responsibility of LEAs and partly that of individual coordinators; and the third was a school responsibility.

Over half the nonparticipating students interviewed said that they had heard of the cooperative programs in their schools, and 70 percent said that they would like to be enrolled in cooperative programs. Most of the programs had far more applicants than they could handle, indicating that on-campus promotion was not a major problem.

Eight out of ten of the nonparticipating employers interviewed responded that they were aware of cooperative education prorgrams, and nearly half said that their participation had been solicited by schools. These figures indicate that the promotional and public relations activities conducted by LEAs, schools, and coordinators were effective.

Instruction

Participating and nonparticipating students were asked: "How closely is the work that you perform on the job related to your classwork?" Although participant responses were generally more positive than those of nonparticipants, the difference between the two groups in the "very closely" category was not significant, and a large minority of participants (30 percent) responded "not at all."

These figures indicate that a close look should be taken at the various kinds of related instruction provided to the students enrolled in cooperative education programs. The major problem appeared to be with the "world of work" instruction provided to students enrolled in diversified programs. Very often these classes were loosely structured and some resembled group counseling sessions. Researchers who chatted informally with students came away with the impression that most students in world-of-work type classes did not take their classwork too seriously. "It's fun," one student said, "but it doesn't have much to do with my job." One coordinator said that he was unsatisfied with the classwork, but that it was difficult to prepare classes for students who were not only working in a variety of occupational programs but whose school majors were in different areas. World-of-work textbooks were stacked on shelves in several classrooms, but there was no evidence that they were used. One coordinator called them "useless."

Thus the classwork component of diversified programs appeared to be a problem to students and coordinators alike. Yet employers seemed unconcerned. Only 6 percent of the participating employers complained that inadequate school training was a constraint limiting the expansion of cooperative education programs. It was evident, however, that the classwork portion of diversified programs was in need of improvement. Since diversified programs had helped open cooperative education to a wide range of urban students, considerable thought should be given to their improvement. Two major areas where improvement is needed are classroom curricula and the training of coordinators to present such curricula.

School-Employer Cooperative Relationships

The matching of students to jobs and the cooperative relationships between schools and employers were very informal:

(1) Job matching: For most programs, students were referred to jobs on the basis of job orders available and students interviews with coordinators. Although matching the "right students" with the "right jobs" was given considerable lip service, such matching often was not possible, either because coordinators did not seek jobs suited to individual students, or because job matching on an individualized basis was not practical (because of the scarcity of jobs suitable to individual students). At the post-secondary level, the job matching process was moot, since the vast majority of post-secondary students found their own jobs.

(2) School-employer cooperative relationships: The following points are pertinent to school-employer relationships:

(a) Most of the participating employers interviewed (73 percent) said that they did not sign formal agreements with the schools (8 percent said that they didn't know whether contracts were signed or not).

(b) Less than half the coordinators interviewed said that formal agreements were used. Moreover, twelve out of sixteen coordinators responded "no" to the question: "Would programs be better if there were formal agreements between employers and schools?"

(3) Training and supervision on the job: Training and supervision on the job was usually left up to employers, and in most cases, no "training plan" or contract stipulation were written for employers to follow.

(4) Grading and evaluation of students: Most employers participated in the grading process; however, without specific training plans, employer ratings of student performance, although by no means unimportant, were only marginally related to educational objectives.

Counseling

Students were asked whether they discussed cooperative education with their counselors and, if they did, whether the discussions were helpful. Of the participants, 62 percent responded "yes" to the first question, and 97 percent responded "very" or "somewhat" to the second question; the corresponding figures for nonparticipants were 55 and 89 percent respectively. Thus the responses of both groups indicate that the counseling provided by the schools was relatively effective.

Coordinators, probably because they spent a major portion of their time counseling students, were less enthusiastic than their students about school counseling departments. Eleven of the thirty coordinators said the counseling available was inadequate; eighteen said that it was "adequate."

Eighteen coordinators said that placement services were available for their students; ten said "no"; and one failed to respond. When asked to comment on the effectiveness of placement services, nineteen coordinators said that they were adequate, seven said inadequate, and four failed to respond.

Half the coordinators interviewed said that they conducted yearly follow-up surveys of the previous year's graduates. All were secondary school coordinators, responding to state or LEA regulations which required such follow-up.

Records on placement were available for all secondary school programs, and follow-up records were available for those fifteen programs which conducted follow-up surveys. With the exception of three programs, placement and follow-up records were not available for post-secondary programs.

Program Constraints

Besides identifying several internal and external constraints, the findings also demonstrated that certain hypotheses, often assumed to be constraints limiting the initiation or expansion of urban cooperative programs, tested out negatively. This section, therefore, is divided into three subsections: (1) nonconstraints, (2) external constraints, and (3) internal constraints.

Nonconstraints

The evidence appeared to show that the following factors, often identified as constraints limiting the initiation or expansion of cooperative education programs in urban areas, were not significant:

(1) Reluctance of urban employers: The vast majority of all coordinators interviewed said that employer reluctance was not a constraint limiting the initiation or expansion of cooperative education programs in urban areas. Employers were said to be "accessible" and agreeable to accepting student referrals. The fact that most urban employers do not live in the cities where their places of business are located was not considered an obstacle to obtaining employer cooperation.

(2) Attitudes of urban students: Participating employers were overwhelmingly positive in their ratings of urban student enthusiasm, intellectual ability, vocational skills, and student success in programs. These employer ratings were particularly significant in view of the fact that the enrollments of well over a third of the sample programs consisted predominately of students with average or below average grade point ratings.

(3) Other: Participating employers responded that the factors listed below were relatively unimportant barriers to their participation in cooperative education programs:

(a) Poor class instruction

(b) Opposition from regular employees

(c) Students difficult to supervise

(d) Safety reasons

(e) Insurance reasons

(f) Legal reasons

External Constraints

Adverse Economic Conditions. Although the evidence was mixed, over all it supported the conclusion that adverse economic conditions have a constraining effect on the initiation and expansion of cooperative education programs. Certainly, this was true in Detroit, a city with one of the highest unemployment rates in the nation. In the other cities, unemployment had not reached a level where it seriously affected the development of student work stations, but in those cities with above average unemployment rates, adverse economic conditions appeared to affect post-school placement rates negatively.

Union Opposition. Union opposition was not a constraint, primarily because most of the work stations to which students were assigned were not in union jurisdictional areas. Whether union opposition would be a constraint if schools attempted to develop work stations in areas where union influence was strong had not been adequately tested. Several of the long-standing single occupation programs had union support, but only one program was a relatively recent example of school-union cooperation.

Public Transportation. In several cities, notably Los Angeles, Houston, and Oklahoma City, the inadequacy of public transportation, coupled with the vast distances central city students were required to travel to work stations, limited enrollment in cooperative programs to students with private automobiles, or who had the use of automobiles. Although this did not appear to be a significant factor limiting the initiation of cooperative programs, it could be a factor in limiting program expansion.

Internal Constraints

Lack of Coordinators. The most serious obstacle to program expansion was the lack of additional coordinators. Whether this was an "internal" or "external" constraint depended on the observer's point of view. School administrators, accustomed to the flow of federal funds for work education programs, would no doubt cite "lack of funds" as the major reason why it was not possible to hire additional coordinators. Others would say that better personnel management on the part of LEAs and individual schools would result in program expansion. This would involve a better understanding on the part of school personnel of maximum and minimum coordinator case loads, instra staff cooperation at the school level, and increased supportive services to coordinators by LEAs and community college districts.

Lack of Time for Coordinator Promotion. Coordinators complained of too little time for job development and employer promotion. Most began their job development efforts each fall term at the same time applicants were being interviewed and registered and classes were being organized. The best solution to this problem appeared to be the hiring of coordinators one month before the beginning of the fall term, solely for the purpose of job development.

Program Structure. At the secondary level, the development of an adequate number of part-time positions was hampered by the alternating work education structure adopted by most high schools. This structure called for students to attend school in the mornings and work in the afternoons. Structures which paired students on jobs, so that employers were receiving the equivalent of full-time employees, might increase the number of job orders received from employers of machine operating personnel, including some business machines. Such pairing could be on a daily, weekly, or term basis, so long as cooperative education students are not segregated in their academic classes.

THE FOLLOW-UP STUDY

The follow-up study consisted of re-interviews with 803 participants in work education programs and a cohort group of 701 non-participants who were first interviewed in 1973 during Part I of the study. The objectives of the study were:

(1) To measure program outcomes by determining current employment status, past year employment stability, wage levels, job satisfaction, and reflective school satisfaction (two years after having had participated in work education programs) of those currently working

(2) To determine, if possible, environmental, administrative, and institutional variables which are predictors of program success

(3) To compare the employment experiences of this sample with those of vocational education students who responded to

a national longitudinal follow-up study sponsored by the National Center for Educational Statistics

The Part I participants were enrolled in three types of work education programs: (1) specific occupation (or the equivalent of cooperative education programs), (2) dropout prevention programs, and (3) career exploration programs. Table 6-2 shows the number of interviews completed by educational level and program type.

TABLE 6-2

Completed Interviews by Educational Level and Program Type

	Post-secondary		Secondary	
Category	Participating	Nonparticipating	Participating	Nonparticipating
Specific occupation training programs	266	193	280	302
Dropout prevention programs	43	50	146	93
Career exploration programs			68	63

Because of the limited number of programs and students in post-secondary dropout prevention and secondary career exploration programs, these groups were not included in the analysis which follows.

Current Employment Status

Table 6-3 summarizes the current employment status (as of March-April 1975)[1] for those interviewed as part of the follow-up study.

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[1] Interviewing for the follow-up study covered a six-week period from March to April 1975. The 52-week employment period will shift slightly, depending upon when each interview was conducted. In general, the period ranges from March-April 1974 to March-April 1975.

Positive outcomes for this measure included "working" or "in the service." The major following points emerged from Table 6-3:

(1) Judged solely on the basis of total group percentages, program participants fared less favorably than their nonparticipating counterparts; that is to say, participants reported holding jobs slightly less often than nonparticipants.

(2) Students participating in secondary programs were more likely to be working if they were males. At the secondary level, no differences were found between males and females and the percentage holding current jobs.

(3) Post-secondary students who were members of minority groups reported holding current jobs more often than nonminorities; the opposite was true at the secondary level.

TABLE 6-3

Current Employment Status (Percentages)

Current Employment Status	Post-secondary Specific Occupations[a]		Secondary Specific Occupations[b]		Secondary Dropout Prevention	
	Participating	Nonparticipating	Participating	Nonparticipating	Participating	Nonparticipating
Working or in the service	77%	83%	71%	75%	64%	66%
Going to school	7	12	9	12	10	11
Not working, but looking for work	5	1	10	4	9	4
Not working and not looking	11	4	11	8	17	19

[a] Chi square significant at the 0.01 level.

[b] Chi square significant at the 0.10 level.

An examination of the data from the national longitudinal study for those participating in secondary programs (either specific occupation or dropout prevention) confirmed the trends identified above, namely:

(1) Males reported working more frequently than females.

(2) Whites reported working more frequently than blacks and other minorities.

Employment Stability

Measured employment stability for the 52-week period immediately preceding the follow-up interview showed that the average number of weeks worked increased steadily from a low of 33 out of 52 for dropout prevention participants to a high of 38 out of 52 for post-secondary participants. Between participating and nonparticipating students, no significant differences were found for the total groups (Table 6-4).

Again for those trained at the secondary level, sex was the discriminatory factor between the average weeks employed. On the average, men were more consistently employed than women. This finding held true for both participating and nonparticipating secondary students. At the post-secondary level, however, no differences between men and women were found in measured employment stability. Blacks participating in post-secondary specific occupation programs worked more weeks of the year than blacks in the nonparticipating comparison groups. This finding further confirmed the positive effects of post-secondary specific occupation programs on the economic outcomes of blacks and other minorities.

TABLE 6-4

Employment Stability
Average Number of Weeks Worked/Past 52 Weeks

	Post-Secondary Specific Occupation						Secondary Specific Occupation						Secondary Dropout Prevention					
	Participating Working			Non-Participating Working			Participating Working			Non-Participating Working			Participating Working			Non-Participating Working		
	Mean	SD	Median	Mean	SD	Median	Mean	SD	Median	Mean	SD	Median	Mean	SD	Median	Mean	SD	Median
AGGREGATE	38	15	44	37	16	44	35	16	43	37	14	43	33	17	41	33	16	38
Sex																		
Male	39	14	44	37	15	44	37	15	44	39	13	43	37	14	43	37	13	42
Female	37	16	44	37	16	44	33	18	42	36	16	43	27	19	25	26	18	29
Ethnic Group																		
White	36	16	44	39	14	44	37	15	43	38	14	43	34	17	43	32	16	37
Black	42	13	46	18	21	4	28	19	35	33	20	43	27	15	25	33	13	33
Chicano	40	13	45	39	16	45	39	13	44	37	19	44	47	00	47	47	00	47
Other	40	12	45	40	15	45	37	13	40	20	00	20	9	10	5	00	00	00

Where comparable data were available, no differences were observed between the national longitudinal sample and the Part II follow-up sample for the key findings reported above.

Current Weekly Earnings

At the secondary level, program participation appeared to have little effect on the average weekly earnings of those interviewed. On the other hand, at the post-secondary level, participating respondents earned substantially more than their nonparticipating counterparts. A sizable portion of the advantage enjoyed by participating students in post-secondary specific occupation programs may be attributed to those trained in manufacturing, marketing and distribution, and health care areas.

Most of the significant relationships regarding current weekly earnings appeared within subgroup comparisons. For example:

(1) Generally, for all programs, men earned more per week on the average than women.

(2) In post-secondary specific occupation programs, whites and blacks earned more per week than their comparison group members.

Since men earned more than women consistently across all programs, this gave rise to the question as to whether the difference in average weekly earnings could be attributed to differences in occupation. Both participating and nonparticipating students were stratified by program type, general occupation classification (both current job and school job), and finally by sex as shown in Table 6-5. The general findings revealed in the table indicate that men start with a relative

TABLE 6-5

Weekly Earnings of Men and Women Trained in or Working in Similar Occupations

	Post Secondary Specific Occupation				Secondary Specific Occupation				Secondary Dropout Prevention			
	Participating		Non-Participating		Participating		Non-Participating		Participating		Non-Participating	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Professional												
Current Occupation	$228	$145	$156	*	*	*	*	*	*	*	*	*
(School Occupation)	($ 60)	($ 36)	*	*	*	($ 26)	*	*	*	($ 31)	*	*
Clerical												
Current Occupation	$140	$111	$106	$114	$138	$110	$ 81	$ 95	$ 97	$106	*	*
(School Occupation)	($ 53)	($ 30)	($ 76)	($ 47)	($ 53)	($ 34)	($ 43)	($ 33)	($ 48)	($ 28)	*	*
Sales and Management												
Current Occupation	$213	$ 86	$180	*	$115	$ 71	$ 88	*	*	*	*	*
(School Occupation)	($ 83)	($ 34)	*	($ 46)	($ 57)	($ 31)	($ 44)	*	*	*	*	*
Blue Collar												
Current Occupation	$178	$155	$131	$ 96	$148	$ 69	$150	$ 86	$149	*	$147	*
(School Occupation)	($ 83)	*	($ 60)	*	($ 50)	*	($ 42)	*	($ 54)	*	($ 38)	*
Service												
Current Occupation	$242	$101	*	$ 76	$ 66	$ 67	$ 76	$ 96	*	$ 63	*	*
(School Occupation)	($ 76)	*	($ 65)	($ 58)	($ 42)	($ 24)	($ 43)	($ 28)	($ 27)	($ 30)	($ 51)	($ 26)

*Cells with less than five observations were suppressed.

earnings advantage while still in their training programs, regardless of the general areas of occupational experience. This relative advantage continues and in some cases increases following training.

Weekly earnings comparisons were also made between participating and nonparticipating students for the first jobs they held after training. The results show that post-secondary participating students again enjoyed a relative advantage over their nonparticipating counterparts in terms of weekly earnings. Moreover, secondary students trained in specific occupation programs enjoyed a slight advantage over nonparticipating students on their first post-school jobs. Conversely, secondary students participating in dropout prevention programs earned $10 less per week on the average than their nonparticipating counterparts. While the data are insufficient to provide direct evidence, they do suggest that in the long run participants in secondary dropout prevention programs may have benefited from their work education participation by closing the earnings gap with their nonparticipating counterparts. On the other hand, those in secondary specific occupation programs were unable to maintain their original advantage over nonparticipants.

In all comparisons involving weekly earnings, the greatest impact of participation definitely appeared to be focused on post-secondary programs. Whites and blacks and men and women who participated in such programs out-earned comparison cohorts in all cases.

The national longitudinal sample of participating and nonparticipating students revealed a somewhat lower level of earnings. However, wages increased with inflationary pressure over a twelve-month period separating the two points in time of measurements, thus providing those in the Part II follow-up study with a slight earnings advantage due solely to inflation.

The trends identified earlier in the follow-up study were substantiated for those responding in the national longitudinal follow-up period namely:

(1) Males earned more than females.

(2) Whites earned more than blacks.

Differences in earning power favored participants in specific occupation training programs over comparison group members. On the other hand, participants in dropout prevention programs were at a slight earnings disadvantage when compared to nonparticipants.

Current Job Satisfaction

To measure satisfaction with jobs currently held, those interviewed were asked a series of questions focusing on satisfaction with pay and fringe benefits, working conditions, challenge, and opportunities. Measures of job satisfaction with current jobs suggests the following:

(1) Participating students in post-secondary specific occupation programs expressed more positive attitudes toward their jobs than their nonparticipating counterparts.

(2) The least satisfied group on the basis of the average of their job satisfaction were those who participated in secondary dropout prevention programs.

(3) In terms of overall job satisfaction, participants in secondary specific occupation programs occupied a middle position between the other two groups.

There were few significant differences between subgroups either at the secondary or post-secondary level. In general, men and women expressed about the same levels of satisfaction with their current jobs across educational levels and types of programs. Whites and blacks did not differ significantly in their expressed levels of job satisfaction.

Expressed job satisfaction between national longitudinal and Part II follow-up study participants showed no measureable differences, and in general trends were parallel for both studies.

The Training Program: Carryover and Attitudes

Respondents were asked to reassess the value of the training they received while in school. Also the amount of job carryover was measured by determining how many were at the same or similar jobs to the jobs held while in school. Since there was a 24-month period between the benchmark and the follow-up study, the following trends emerged:

(1) Positive carryover of training to current jobs was highest for participants in post-secondary specific occupation programs. Four in ten were working at the same jobs they held during the benchmark study, three in ten were in the same field as their training jobs, and four in ten were working in unrelated fields.

(2) Participants in secondary specific occupation programs showed the next highest level of consistency between training and current jobs. Specifically, three in ten in this group were working at the same jobs they held

while in training, two in ten were working in the same general fields, while five in ten were working in unrelated jobs.

(3) As expected, the lowest training to current job carryover was measured among participants in secondary dropout prevention programs. Specifically, two in ten were working at the same jobs they held while in the program, two in ten were working in the same fields, while six in ten were working at unrelated jobs.

(4) Over all, attitudes expressed toward training programs remained positive. Positive evaluations were voiced more frequently by participants in post-secondary specific occupation programs than by those in other groups. Secondary level participants were somewhat less enthusiastic in their retrospective evaluation of training programs.

(5) Asked to assess the job relevance of the training they received while in school, the strongest positive comments came again from participants in post-secondary specific occupation programs. Participants in specific occupation and dropout prevention programs at the secondary level were significantly less likely to give their programs high marks.

(6) The area where training programs received their highest negative marks was in the assessment of job preparation. Following a now familiar pattern, participants in post-secondary specific occupation programs were more likely

to judge their preparation for jobs favorably than participants in either specific occupation or dropout prevention secondary level programs.

CONCLUSIONS AND RECOMMENDATIONS

The findings outlined in the previous sections were based on an assessment of a purposive sample of urban cooperative programs, and the results of follow-up interviews with former participants (and a cohort group of nonparticipants) in both cooperative and other kinds of work education programs located primarily in suburban and rural areas of the country. Moreover, the programs included in the urban Part II sample, and the primarily non-urban Part I sample, were selected from universes of programs nominated by educators and other vocational education experts. Thus the conclusions listed below apply primarily to the urban cooperative case study sample and, with respect to the follow-up study, the fifty programs included in the Part I sample; they do not necessarily apply to all work education programs in operation throughout the nation.

The conclusions are arranged in three categories: (1) general conclusions, (2) recommendations based on an integration of the findings of the urban case study assessment and the follow-up study, and (3) recommendations relating solely to urban cooperative programs.

General Conclusions

(1) Effect of 1968 set-aside amendments: Based on the number of program nominations received, which account for only a small portion of all cooperative education programs in

operation in the nation's hundred largest cities -- the vast majority of which have been initiated since 1970 -- it can be concluded that the cooperative education set-aside provision of the 1968 amendments to the Vocational Education Act of 1963 has increased substantially the number of cooperative programs available to urban vocational education students, and has resulted in extending such programs to students who heretofore have been considered "unqualified" for enrollment in cooperative education programs --

(a) Substantial numbers of minority, disadvantaged, and average to below average students were being enrolled in urban cooperative education programs.

(b) Programs have been designed specifically for students of below average to average academic standing, and disadvantaged students.

(2) Employer cooperation: According to the coordinators interviewed, there was no lack of employers willing to participate in urban cooperative education programs.

(3) Urban student attitudes: According to employers interviewed the urban students participating in cooperative education programs were enthusiastic, well motivated, and competent, thus disproving the commonly held assumption that in urban areas the lack of well-motivated students with positive attitudes toward work is a constraint limiting the expansion of cooperative education.

(4) Occupational areas: Based on an analysis of the program nominations received, less than half of the cooperative education offerings were in the traditional areas of distributive education and business and office occupations. Moreover, the field work showed that the emphasis was shifting toward "general occupation" and "diversified" programs (especially the latter) and away from traditional single occupation programs.

(5) Participants versus nonparticipants: Participants in urban cooperative education programs expressed more positive attitudes toward school and work than nonparticipants. However, there were differences by educational level, sex, and minority status --

(a) Post-secondary participants expressed more positive attitudes than secondary participants.

(b) Post-secondary minorities expressed more positive attitudes than post-secondary nonminorities; the opposite was true at the secondary level.

(c) Women at both educational levels were less satisfied with school and jobs than their male counterparts.

(6) Completion and placement rates: Average completion and placement rates for secondary school urban cooperative education programs were high. However:

(a) Placement rates in cities with above average unemployment rates were considerably lower than those in cities with average and below average unemployment rates.

(b) Completion rates for diversified programs were considerably lower than those for general and single occupation programs.

(c) Single occupation programs had the highest training related placement rates, and more students in single occupation programs responded favorably to the question: "Did your program help you decide on a career?"

(7) Size of city: Students in large cities (populations of one million and over) rated job responsibility lower than students in medium-size and small cities, and had poorer attitudes toward their jobs. Dropout rates were also higher in large cities. On the other hand, more students in large cities were likely to recommend programs to friends, and large city participants expressed higher job satisfaction than their counterparts in medium-size and small cities.

(8) Training and supervision on the job: Programs with highly rated training and supervision on the job, and integration of classroom instruction and on-the-job training, had higher success outcomes in the following categories --

(a) Job satisfaction of students
(b) Student school satisfaction
(c) Program helped decide student occupation
(d) Overall student rating of programs
(e) The likelihood that students would recommend programs
(f) Attitudes toward programs
(g) Attitudes toward jobs

(9) Part I participants versus Part II participants: Based on comparisons between the attitudes of Part I participants (when they were first interviewed in 1973) and Part II urban participants, it can be concluded that the outcomes of the urban programs were approximately the same as those for non-urban programs; and in several, important outcomes (job satisfaction and program helped decide career) were better. Thus cooperative education in urban areas is perceived by students to be as beneficial (and in some ways more beneficial) than cooperative education programs in non-urban areas.

(10) Constraints: The major potential constraints to expansion of cooperative education programs are discussed below --

(a) Lack of coordinators: The most serious obstacle to program expansion was the lack of additional coordinators. Whether this was an "external" or "internal" constraint depended on the observer's point of view. School administrators, accustomed to the flow of federal funds for work education programs cited "lack of funds" as the major reason why it was not possible to hire additional coordinators. Others might say that improved personnel management by LEAs, community college districts, and individual schools would result in program expansion. Regardless of whether the reasons were internal or external, however, lack of coordinators was the major constraint limiting program expansion.

(b) Adverse economic conditions: Adverse economic conditions was the major external factor limiting program expansion. Even if it were possible to increase the supply of coordinators, program expansion probably would not be advisable in cities suffering severely high unemployment rates.

(c) Union opposition: Whether union opposition was a constraint had not been adequately tested. Too few union representatives had been approached by school officials, and too few attempts had been made to place students with employers who had collective bargaining agreements with unions.

Urban Case Study Follow-Up Recommendations

The following conclusions and recommendations integrate findings from the follow-up study with the urban case study assessment.

1. Outcomes for Post-secondary Students. The follow-up study shows that post-secondary specific programs were the most successful of those studies. Minority and women graduates of these programs were earning higher wages and working more regularly than their respective comparison groups. Perhaps the greatest beneficiaries of the post-secondary participation were minority women who were working and earning more than nonminority female participants. The urban assessment shows that the attitudes of post-secondary cooperative education participants toward their programs, and the wages they were earning on the job, were more positive and higher, respectively, than those of secondary school participants. The combination of these findings

indicates that the positive post-school trends of post-secondary participants had their beginnings in school experience.

Recommendation: Consideration should be given to placing even more emphasis on the funding of post-secondary cooperative education programs. Obviously, such a decision should not be based solely on the results of this study, but the question is pertinent and points to future policy consideration.

2. Outcomes for Minorities. Post-secondary minorities benefited more from cooperative education programs than any other group, both in terms of post-school outcomes and in-school satisfaction. High school minorities, on the other hand, were slightly less satisfied with their cooperative experience than their nonminority counterparts. This may be because the occupations range was narrower for minorities than for nonminorities, and the wages received by minorities were lower.

Recommendation: Special efforts should be made to place high school minority participants in a wider range of occupational offerings, especially among blue collar occupations, and to assure that minorities receive wages at least equal to those of nonminorities.

3. Outcomes for Women. Both the follow-up study and urban cooperative education assessment point out clearly that the outcomes for women participants were much lower than those for men. The range of occupational offerings in which women participated was narrower than that of men, and the wages paid women, both while they were in school and after they had entered the labor market, were significantly

lower than the wages paid men -- even when both had been trained in the same occupational areas.

> Recommendation: Special incentives should be provided to school districts which show a willingness to initiate innovative educational programs and placement services that would encourage a wide range of female labor force participation, and to assure that the wages paid women are at least equal to those paid men when both are working in the same occupational areas. Such programs should involve counselors and coordinators who often play a major role in influencing the career goals of students and in developing jobs.

4. Outcomes for Secondary Students. The follow-up study indicates that although the attitudes of high school work education participants were much more positive than nonparticipants while they were in school, two years later little difference was found between the two groups. Furthermore, the outcomes for high school participants, in terms of current employment status, past year employment stability, wage levels, and job satisfaction, were about the same as those for nonparticipants -- even though the first jobs obtained by participants paid higher wages than those obtained by nonparticipants

> Recommendation: The shift in emphasis from single occupation to multiple occupation programs, and the extension of cooperative education to students who in previous years would not have been considered qualified for cooperative education programs, may account for the short duration of the positive outcomes cited above. Thus traditional assumptions regarding

cooperative education should be reexamined. Attention should be given to whether the same administrative and program techniques, which have been successful in the past with respect to single occupation programs, apply to diversified and general occupation programs. The goal should not be to discontinue diversified and general occupation programs, but to find ways of strengthening them, particularly for students who have not been served well in the past.

5. Upgrading of School Jobs. The follow-up study shows that participant outcomes were better for students whose school jobs:

a. Paid higher than average wages
b. Employed students for more than the average number of hours per week
c. Lasted longer than the average job
d. Offered more job responsibility and challenge

The urban case study assessment revealed that strong relationships existed between success criteria and the following:

a. Highly rated training and supervision on the job
b. Highly rated integration of classwork and on-the-job training

Recommendation: Continued efforts should be made to upgrade the quality of work stations and to seek agreements between schools and employers which will assure adequate training and supervision on-the-job, and maximum integration of classwork with on-the-job training.

Urban Case Study Recommendations

6. Outcomes for Diversified Programs. The outcomes for diversified programs were lower than those for other types of programs. For example, completion rates were lower, fewer of the students interviewed said that the jobs related to their career interests, the programs were given lower student ratings, fewer students were likely to recommend the programs to friends, and student attitudes toward diversified programs were less positive than the average for the total sample of cooperative education students. Since many diversified programs were directed toward disadvantaged students, potential dropouts, and students with below average to average grade point averages, the findings cited above should not come as a surprise, and should not be used to discourage the initiation of such programs (see below).

> Recommendation: Diversified program enrollment should be limited to those students who have not made a choice of an occupational cluster for their career. These students can most benefit from the freedom to shift from one occupational cluster to another without changing school schedules.

7. Outcomes for Students with C, D, or F Grade Point Averages. Although the evidence indicates that participants with C, D, or F grade point averages had far less positive attitudes toward school and their cooperative jobs than students with A or B grade point averages, a higher percentage of average to below average students wanted full-time jobs in the same occupational areas as their school

jobs. What this means is that the C, D, and F students were more concerned with their post-school employment prospects than A and B students. Thus programs directed toward C or lower students (for example, many diversified programs) were meeting a student demand, or need.

> Recommendation: Diversified and other programs designed to serve students with average and below average grades should be continued and strengthened.

8. Student-Coordinator Ratio. Student-coordinator ratios were relatively high (often 40:1). Although it was beyond the scope of this study to evaluate the coordination function, it appeared that the benefits of high student-coordinator ratios (program expansion and extension of cooperative education programs to the disadvantaged, including students with low grades) far outweighed possible program deterioration. Moreover, it is highly doubtful that student-coordinator ratios as low as 20:1 would be cost effective in most school and community college districts. Definite conclusions regarding student-coordinator ratios are difficult because of the lack of available information on the time needed by coordinators to fulfill all of their functions.

> Recommendation: Additional research is needed to determine the number of students that one coordinator, working full-time, can supervise on a weekly basis and to determine if the type of cooperative education program affects this ratio. Such research should seek to determine the time needed for the

average coordinator to recruit students, develop curricula, teach classes, develop work stations, and monitor student work sites.

9. Job Development. A large percentage of coordinators did not believe that they had adequate time to perform job development and employer promotion. Most began their job development efforts each fall term at the same time applicants were being interviewed and registered and classes were being organized.

Recommendation: Consideration should be given to hiring coordinators one month before the fall term primarily for the purposes of job development. Where this was done, the development of work stations was not a harassing problem, and coordinators were able to increase substantially their employee contacts.

10. Program Structure. At the high school level, the development of an adequate number of part-time positions was hampered by the alternating work education structure adopted by most high schools. This structure called for students to attend schools in the mornings and work in the afternoons. Part-time jobs involving the use of expensive machines, including some office machines, were not available to students who were available for only half a day.

Recommendation: Consideration should be given to the adoption of structures which allow students to be paired on jobs involving expensive equipment on jobs, so that such equipment can be kept in operation full time. Pairing should be accompanied by assurances that full-time employees will not be replaced.

11. Instruction. Although participant rating of integration of classroom instruction and on-the-job training was generally higher than that of nonparticipants, the difference between the two groups in the "very closely" category was not significant, and a large minority of participants (30 percent) responded "not at all." This may be due to the large number of diversified programs included in the sample (30 percent) in which the world of work classroom instruction was only marginally related to the work students performed on the job.

Recommendation: Attention should be given to improving world-of-work curricula used in both diversified and general occupation programs. These curricula pose problems for both students and coordinators and are in need of improvement.

12. Work Stations. It appears that in the rush to expand the number of programs after the passage of the 1968 amendments, the matching of students to jobs and the cooperative relationship between schools and employers became increasingly informal. This may be one of the reasons why participants rated overall quality of work stations slightly below nonparticipants (who rated their jobs), and training and supervision on the job about the same as nonparticipants.

Recommendation: Consideration should be given to tightening formal relationships between schools and employers, at least to the extent that on-the-job training is related meaningfully to educational objectives.

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